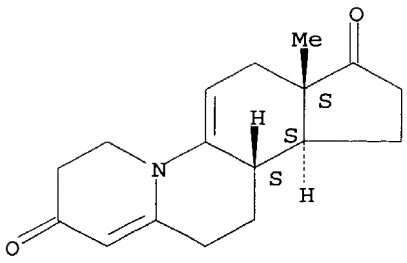
AN 1966:67688 CAPLUS
DN 64:67688
OREF 64:12641b-c
TI A new general synthesis of benzo[a]quinolizines, dibenzo[a,f]quinolizines, and related compounds
AU Strandtmann, M. Von; Cohen, M. P.; Shavel, John Jr.
CS Dept. of Org. Chem., Warner-Lambert Res. Inst., Morris Plains, NJ
SO Journal of Organic Chemistry (**1966**), 31(3), 797-803
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
AB Condensation of β-diketones with 3,4-dihydroisoquinolines provides a facile one-step route to benzo[a]**quinolizines**, dibenzo[a,f]**quinolizines**, and related compds. having 8-**azasteroid** and 8- (or 9-) aza-D-homosteroid nuclei. The spectral data and the reaction mechanism are discussed. Configurations and conformations of benzo[a]**quinolizines** substituted at C-1 and of dibenzo[a,f]**quinolizines** substituted at C-12 are assigned on the basis of N.M.R. and chemical evidence.

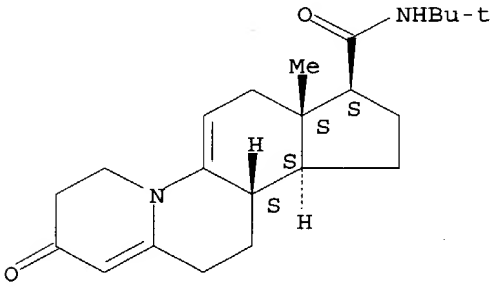
AN 1997:215720 CAPLUS
DN 126:233099
TI 19-Nor-10-azasteroids: A Novel Class of Inhibitors for Human Steroid 5α-Reductases 1 and 2
AU Guarna, Antonio; Belle, Catherine; Machetti, Fabrizio; Occhiato, Ernesto G.; Payne, Andrew H.; Cassiani, Chiara; Comerci, Alessandra; Danza, Giovanna; De Bellis, Alessandra; Dini, Stefania; Marrucci, Alessandro; Serio, Mario
CS Dipartimento di Chimica Organica Ugo Schiff, Universita di Firenze, Florence, I-50121, Italy
SO Journal of Medicinal Chemistry (1997), 40(7), 1112-1129
CODEN: JMCMAR; ISSN: 0022-2623
PB American Chemical Society
DT Journal
LA English
AB Steroid 5α- **reductase** is a system of two isoenzymes (5αR-1 and 5αR-2) which catalyzes the NADPH-dependent reduction of testosterone to dihydrotestosterone in many androgen sensitive tissues and which is related to several human endocrine diseases such as benign prostatic hyperplasia (BPH), prostatic cancer, acne, alopecia, pattern baldness in men and hirsutism in women. The discovery of new potent and selective 5αR inhibitors is thus of great interest for pharmaceutical treatment of these diseases. The synthesis of a novel class of inhibitors for human 5αR-1 and 5αR-2, having the 19-nor-10-azasteroid skeleton, is described. The inhibitory potency of the 19-nor-10-azasteroids was determined in homogenates of human hypertrophic prostates toward 5αR-2 and in DU-145 human prostatic adenocarcinoma cells toward 5αR-1, in comparison with finasteride (IC50 = 3 nM for 5αR-2 and .apprx. 42 nM for 5αR-1), a drug which is currently used for BPH treatment. The inhibition potency was dependent on the type of substituent at position 17 and on the presence and position of the unsatn. in the A and C rings. Δ9(11)-19-Nor-10-azaandrost-4-ene-3,17-dione (or 10-azaestra-4,9(11)-diene-3,17-dione) and 19-nor-10-azaandrost-4-ene-3,17-dione were weak inhibitors of 5αR-2 (IC50 = 4.6 and 4.4 μM, resp.) but more potent inhibitors of 5αR-1 (IC50 = 263 and 299 nM, resp.), whereas 19-nor-10-aza-5α-androstane-3,17-dione was inactive for both the isoenzymes. The best result was achieved with the 9:1 mixture of Δ9(11)- and Δ8(9)-17β-(N-tert-butylcarbamoyl)-19-nor-10-aza-4-androsten-3-one, which was a good inhibitor of 5αR-1 and 5αR-2 (IC50 = 127 and 122 nM, resp.), with a potency very close to that of finasteride. The results of ab initio calcns. suggest that the inhibition potency of 19-nor-10-azasteroids could be directly related to the nucleophilicity of the carbonyl group in the 3-position.
IT **188470-75-9P 188470-79-3P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation and structure-activity relationship of 19-nor-10-azasteroids as inhibitors for human steroid 5α-reductases 1 and 2)
RN 188470-75-9 CAPLUS
CN Indeno[4,5-c]quinolizine-2,8-dione, 3,4,7,7a,9,10,10a,10b,11,12-decahydro-7a-methyl-, (7aS,10aS,10bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



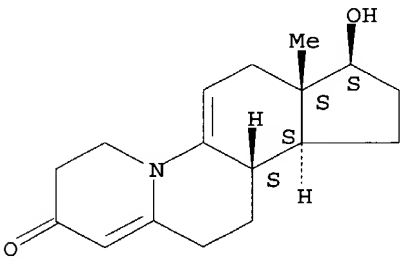
RN 188470-79-3 CAPLUS
CN Indeno[4,5-c]quinolizine-8-carboxamide, N-(1,1-dimethylethyl)-2,3,4,7,7a,8,9,10,10a,10b,11,12-dodecahydro-7a-methyl-2-oxo-, (7aS,8S,10aS,10bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

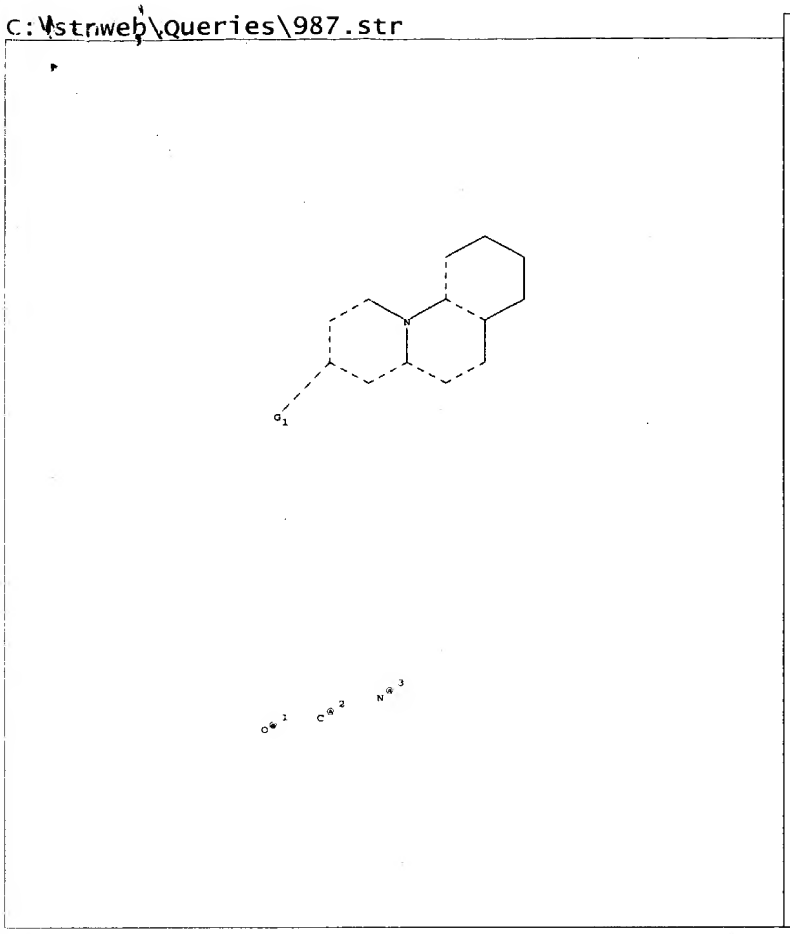


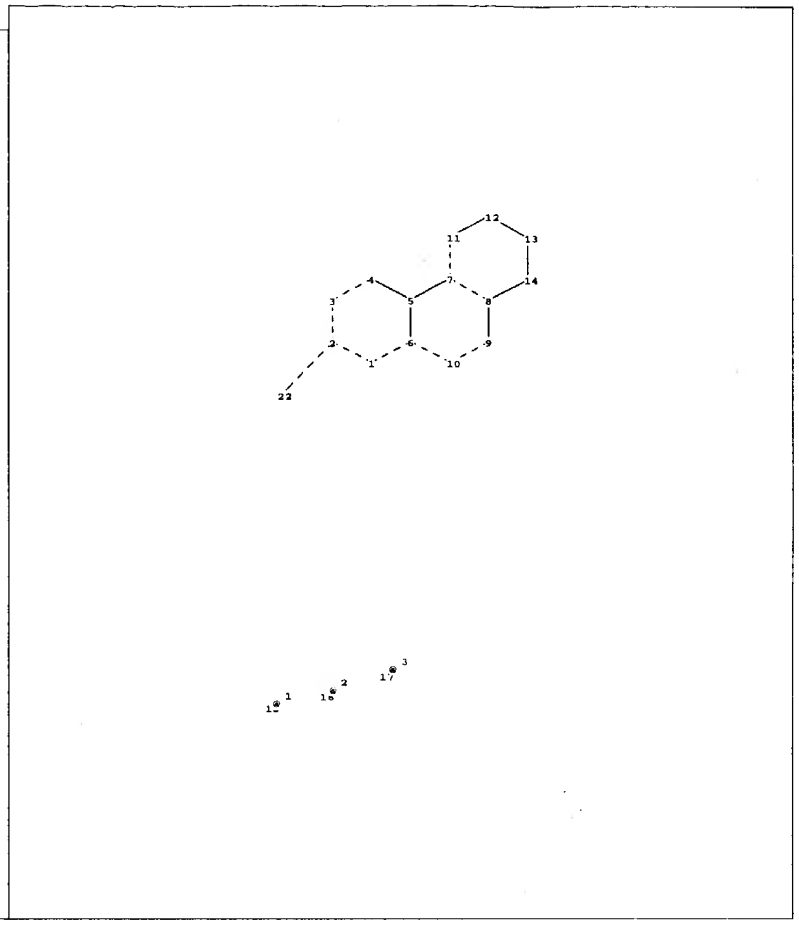
IT **188471-11-6P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation and structure-activity relationship of 19-nor-10-azasteroids as inhibitors for human steroid 5α-reductases 1 and 2)
RN 188471-11-6 CAPLUS
CN Indeno[4,5-c]quinolizin-2(7H)-one, 3,4,7a,8,9,10,10a,10b,11,12-decahydro-8-hydroxy-7a-methyl-, (7aS,8S,10aS,10bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



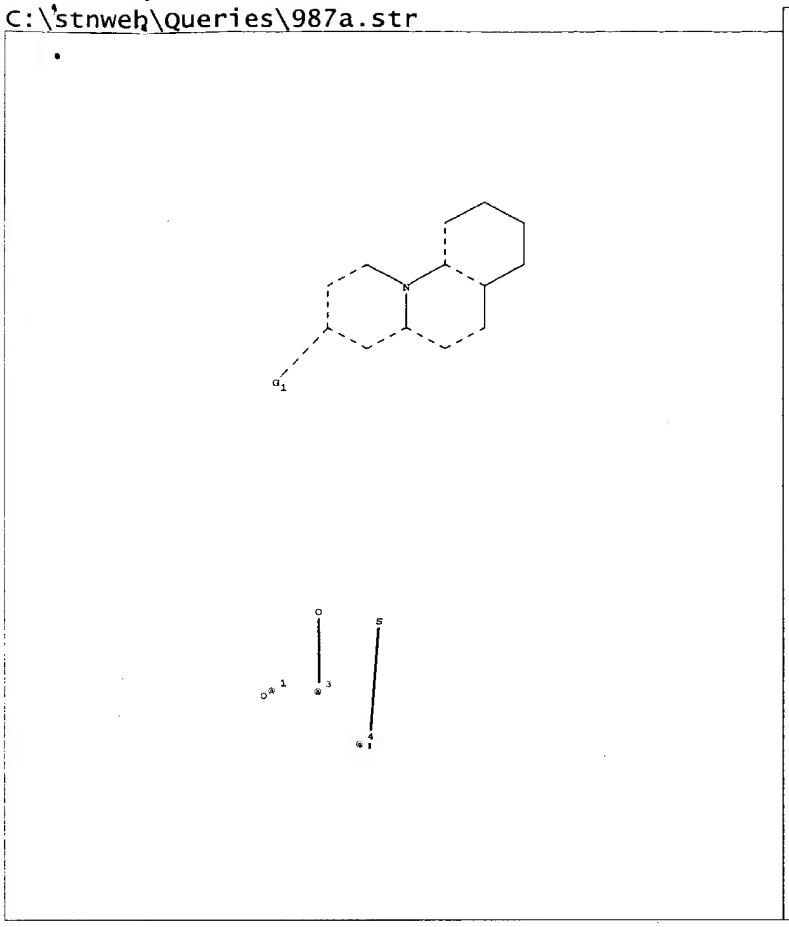
C:\strweb\Queries\987.str

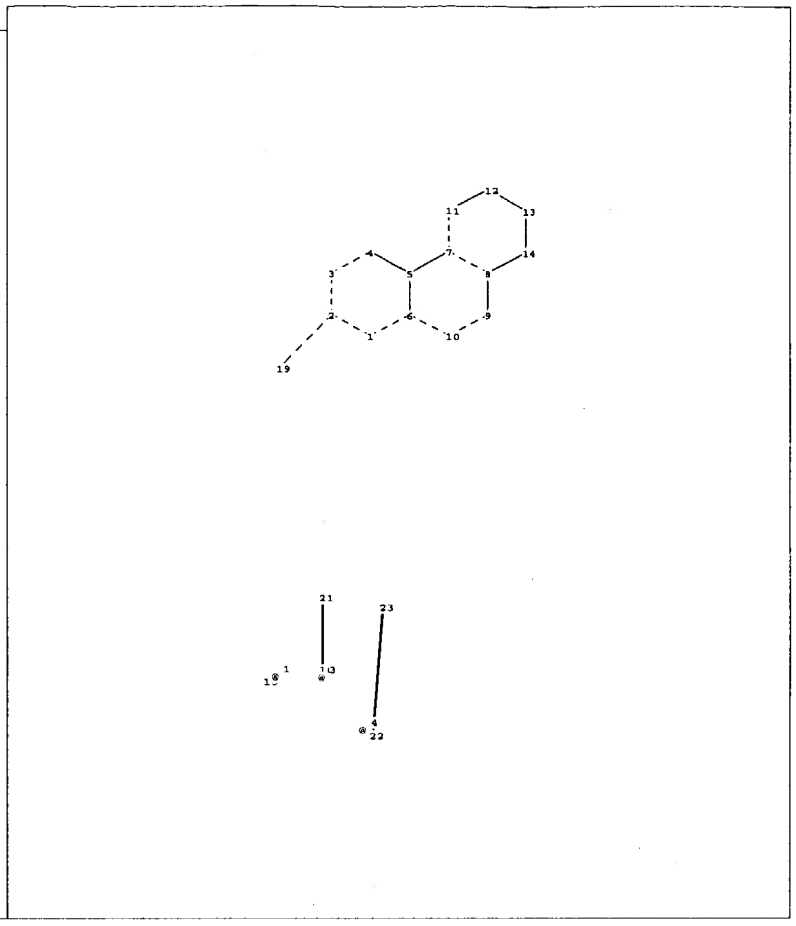




```
chain nodes :
    15  16  17  22
ring nodes :
    1  2  3  4  5  6  7  8  9  10  11  12  13  14
chain bonds :
    2-22
ring bonds :
    1-2  1-6  2-3  3-4  4-5  5-6  5-7  6-10  7-8  7-11  8-9  8-14  9-10  11-12  12-13  13-14
exact/norm bonds :
    1-2  1-6  2-3  2-22  3-4  4-5  5-6  5-7  6-10  7-8  7-11  8-9  8-14  9-10  11-12  12-13
    13-14
isolated ring systems :
    containing 1 :


G1:[*1],[*2],[*3]

Match level :
    1:Atom  2:Atom  3:Atom  4:Atom  5:Atom  6:Atom  7:Atom  8:Atom  9:Atom  10:Atom  11:Atom
    12:Atom  13:Atom  14:Atom  15:CLASS  16:CLASS  17:CLASS  22:CLASS
```

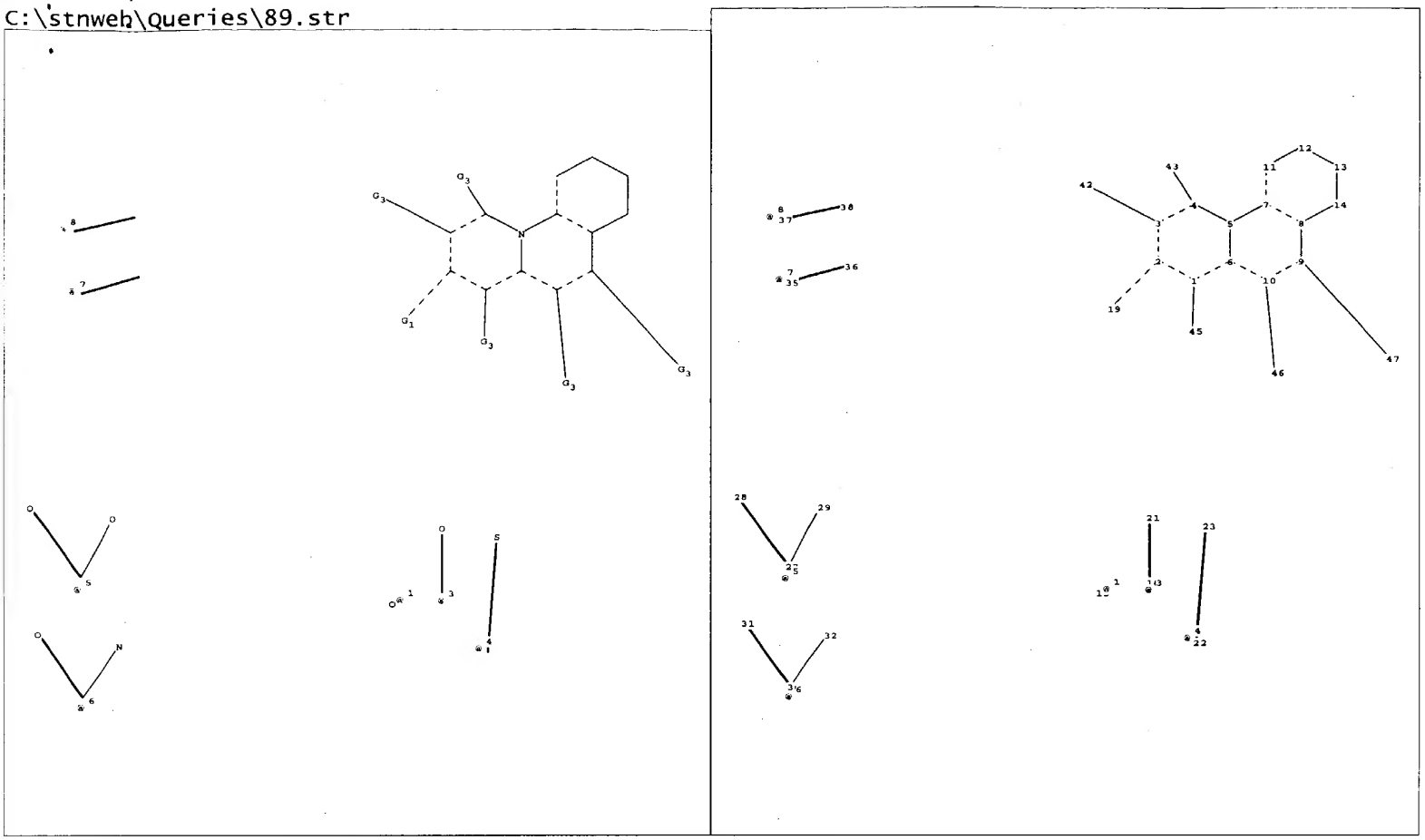
C:\stnweb\Queries\987a.str





```
chain nodes :
    15  16  19  21  22  23
ring nodes :
    1  2  3  4  5  6  7  8  9  10  11  12  13  14
chain bonds :
    2-19  16-21  22-23
ring bonds :
    1-2  1-6  2-3  3-4  4-5  5-6  5-7  6-10  7-8  7-11  8-9  8-14  9-10  11-12  12-13  13-14
exact/norm bonds :
    1-2  1-6  2-3  2-19  3-4  4-5  5-6  5-7  6-10  7-8  7-11  8-9  8-14  9-10  11-12  12-13
    13-14  16-21  22-23
isolated ring systems :
    containing 1 :

G1:[*1]

G2:[*1],[*3],[*4]

Match level :
    1:Atom  2:Atom  3:Atom  4:Atom  5:Atom  6:Atom  7:Atom  8:Atom  9:Atom  10:Atom  11:Atom
    12:Atom  13:Atom  14:Atom  15:CLASS  16:CLASS  19:CLASS  21:CLASS  22:CLASS  23:CLASS
```

C:\stnweb\queries\89.str



chain nodes :
15 16 19 21 22 23 27 28 29 30 31 32 35 36 37 38 42 43 45 46 47
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14
chain bonds :
1-45 2-19 3-42 4-43 9-47 10-46 16-21 22-23 27-28 27-29 30-31 30-32 35-36 37-38
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-10 7-8 7-11 8-9 8-14 9-10 11-12 12-13 13-14
exact/norm bonds :
1-2 1-6 1-45 2-3 2-19 3-4 3-42 4-5 4-43 5-6 5-7 6-10 7-8 7-11 8-9 8-14 9-10
9-47 10-46 11-12 12-13 13-14 16-21 22-23 27-28 27-29 30-31 30-32
exact bonds :
35-36 37-38
isolated ring systems :
containing 1 :

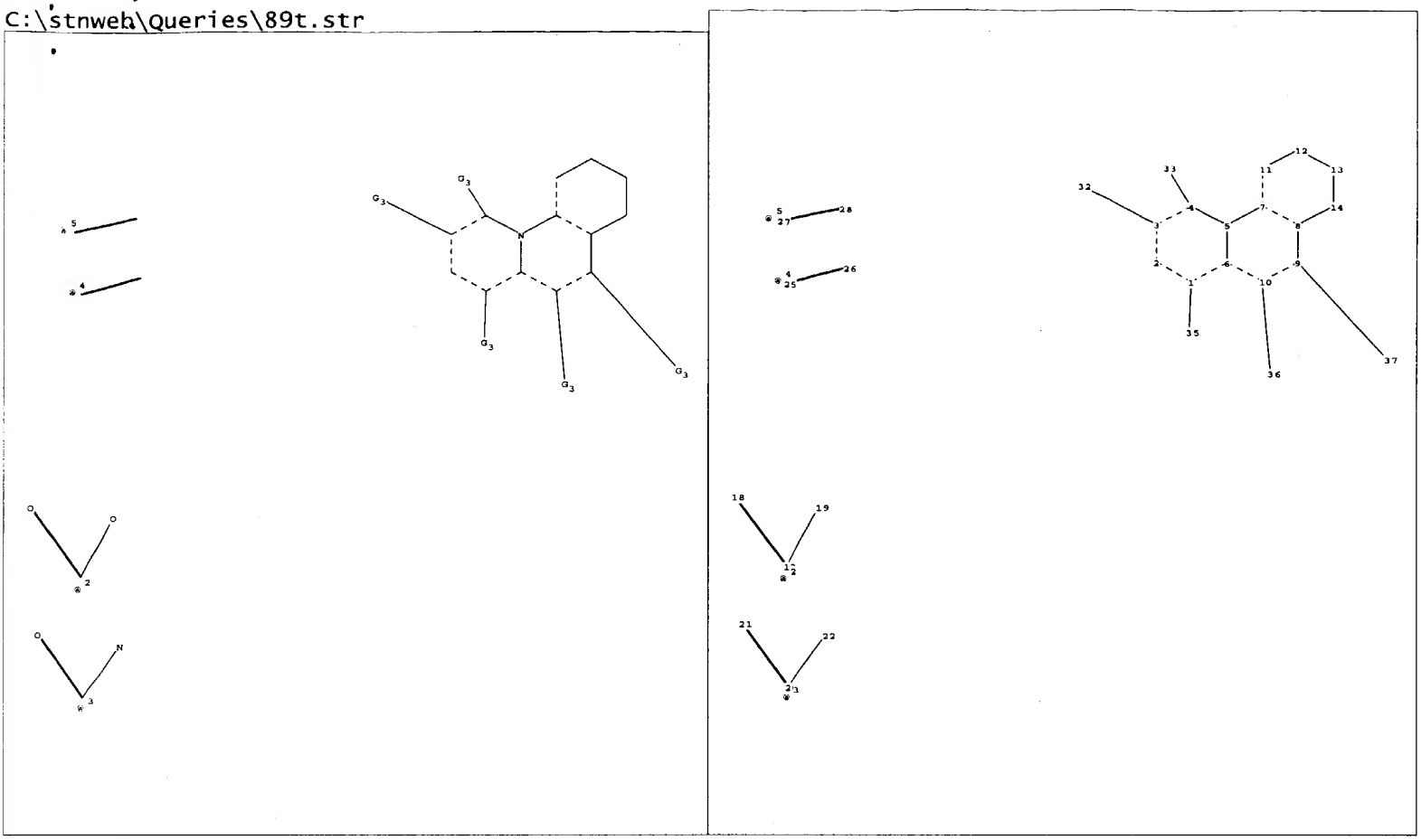
G1:[*1]

G2:[*1],[*3],[*4],[*5],[*6]

G3:Cb,Ak,H,[*7],[*8]

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom
12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS 19:CLASS 21:CLASS 22:CLASS 23:CLASS
27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 35:CLASS 36:CLASS 37:CLASS
38:CLASS 42:CLASS 43:CLASS 45:CLASS 46:CLASS 47:CLASS

C:\stnweb\Queries\89t.str



chain nodes :
17 18 19 20 21 22 25 26 27 28 32 33 35 36 37
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14
chain bonds :
1-35 3-32 4-33 9-37 10-36 17-18 17-19 20-21 20-22 25-26 27-28
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-10 7-8 7-11 8-9 8-14 9-10 11-12 12-13 13-14
exact/norm bonds :
1-2 1-6 1-35 2-3 3-4 3-32 4-5 4-33 5-6 5-7 6-10 7-8 7-11 8-9 8-14 9-10 9-37
10-36 11-12 12-13 13-14 17-18 17-19 20-21 20-22
exact bonds :
25-26 27-28
isolated ring systems :
containing 1 :

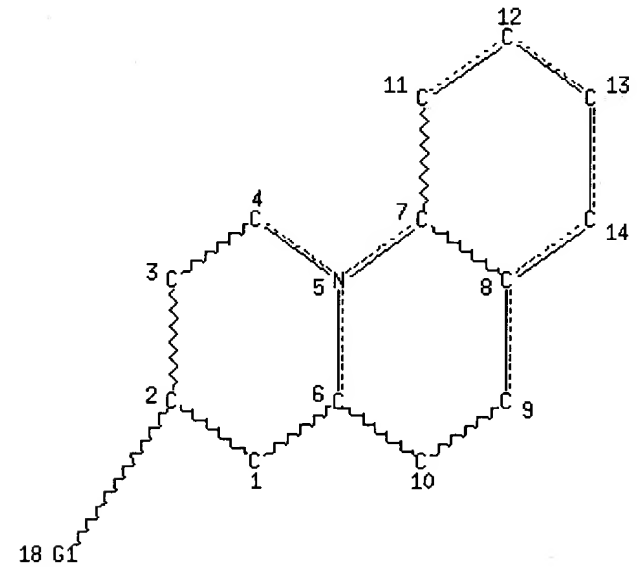
G2:[*2],[*3]

G3:Cb,Ak,H,[*4],[*5]

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom
12:Atom 13:Atom 14:Atom 17:CLASS 18:CLASS 19:CLASS 20:CLASS 21:CLASS 22:CLASS
25:CLASS 26:CLASS 27:CLASS 28:CLASS 32:CLASS 33:CLASS 35:CLASS 36:CLASS 37:CLASS

```
* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1            Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2            "Ask CAS" for self-help around the clock
 NEWS  3  SEP 09    CA/CAplus records now contain indexing from 1907 to the
                    present
 NEWS  4  DEC 08    INPADOC: Legal Status data reloaded
 NEWS  5  SEP 29    DISSABS now available on STN
 NEWS  6  OCT 10    PCTFULL: Two new display fields added
 NEWS  7  OCT 21    BIOSIS file reloaded and enhanced
 NEWS  8  OCT 28    BIOSIS file segment of TOXCENTER reloaded and enhanced
 NEWS  9  NOV 24    MSDS-CCOHS file reloaded
 NEWS 10  DEC 08    CABA reloaded with left truncation
 NEWS 11  DEC 08    IMS file names changed
 NEWS 12  DEC 09    Experimental property data collected by CAS now available
                    in REGISTRY
 NEWS 13  DEC 09    STN Entry Date available for display in REGISTRY and CA/CAplus
 NEWS 14  DEC 17    DGENE: Two new display fields added
 NEWS 15  DEC 18    BIOTECHNO no longer updated
 NEWS 16  DEC 19    CROPU no longer updated; subscriber discount no longer
                    available
 NEWS 17  DEC 22    Additional INPI reactions and pre-1907 documents added to CAS
                    databases
 NEWS 18  DEC 22    IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields
 NEWS 19  DEC 22    ABI-INFORM now available on STN
 NEWS 20  JAN 27    Source of Registration (SR) information in REGISTRY updated
                    and searchable
 NEWS 21  JAN 27    A new search aid, the Company Name Thesaurus, available in
                    CA/CAplus
 NEWS 22  FEB 05    German (DE) application and patent publication number format
                    changes
 NEWS 23  MAR 03    MEDLINE and LMEDLINE reloaded
 NEWS 24  MAR 03    MEDLINE file segment of TOXCENTER reloaded
 NEWS 25  MAR 03    FRANCEPAT now available on STN
 NEWS 26  MAR 29    Pharmaceutical Substances (PS) now available on STN
 NEWS 27  MAR 29    WPIFV now available on STN
 NEWS 28  MAR 29    No connect hour charges in WPIFV until May 1, 2004
 NEWS 29  MAR 29    New monthly current-awareness alert (SDI) frequency in RAPRA

 NEWS EXPRESS  MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 3 MARCH 2004
 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS INTER    General Internet Information
 NEWS LOGIN    Welcome Banner and News Items
 NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
 NEWS WWW      CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN Customer
  agreement.  Please note that this agreement limits use to scientific
  research.  Use for software development or design or implementation
  of commercial gateways or other similar uses is prohibited and may
  result in loss of user privileges and other penalties.

  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 13:24:15 ON 08 APR 2004
```

```
=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'REGISTRY' ENTERED AT 13:24:22 ON 08 APR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:     7 APR 2004  HIGHEST RN 672883-15-7
DICTIONARY FILE UPDATES:    7 APR 2004  HIGHEST RN 672883-15-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=>
L1       STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1                STR
```




```
Page 1-A
```

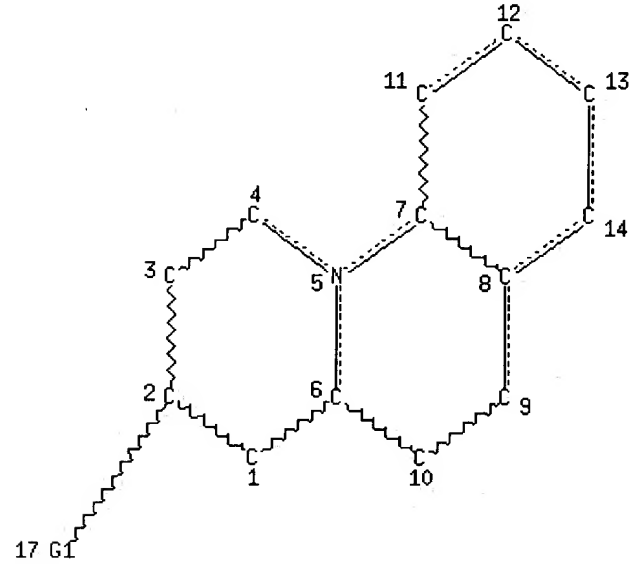
```
                N 17

        C 16
 O 15
Page 3-A
VAR G1=15/16/17
NODE ATTRIBUTES:
NSPEC    IS R       AT   1
NSPEC    IS R       AT   2
NSPEC    IS R       AT   3
NSPEC    IS R       AT   4
NSPEC    IS R       AT   5
NSPEC    IS R       AT   6
NSPEC    IS R       AT   7
NSPEC    IS R       AT   8
NSPEC    IS R       AT   9
NSPEC    IS R       AT  10
NSPEC    IS R       AT  11
NSPEC    IS R       AT  12
NSPEC    IS R       AT  13
NSPEC    IS R       AT  14
NSPEC    IS C       AT  15
NSPEC    IS C       AT  16
NSPEC    IS C       AT  17
NSPEC    IS C       AT  18
DEFAULT MLEVEL IS ATOM
MLEVEL  IS CLASS  AT  15 16 17
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  18

STEREO ATTRIBUTES: NONE


=> s l1
SAMPLE SEARCH INITIATED 13:27:46 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -   1049 TO ITERATE

 95.3% PROCESSED    1000 ITERATIONS                          12 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:        19037 TO    22923
PROJECTED ANSWERS:              39 TO      463

L2            12 SEA SSS SAM L1

=> s l1 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 13:27:50 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -  21313 TO ITERATE

100.0% PROCESSED   21313 ITERATIONS                        219 ANSWERS
SEARCH TIME: 00.00.01
```

```
L3          219 SEA SSS FUL L1

=> file hcaplus
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                       157.52     157.73

FILE 'HCAPLUS' ENTERED AT 13:27:53 ON 08 APR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)


Copyright of the articles to which records in this database refer is
held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.
The CA Lexicon is the copyrighted intellectual property of the
the American Chemical Society and is provided to assist you in searching
databases on STN.  Any dissemination, distribution, copying, or storing
of this information, without the prior written consent of CAS, is
strictly prohibited.

FILE COVERS 1907 - 8 Apr 2004  VOL 140 ISS 15
FILE LAST UPDATED: 7 Apr 2004  (20040407/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> s l3
L4          58 L3

=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         2.36     160.09

FILE 'REGISTRY' ENTERED AT 13:28:17 ON 08 APR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:     7 APR 2004  HIGHEST RN 672883-15-7
DICTIONARY FILE UPDATES:    7 APR 2004  HIGHEST RN 672883-15-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
```

http://www.cas.org/ONLINE/DBSS/registryss.html

=>
L5 STRUCTURE UPLOADED

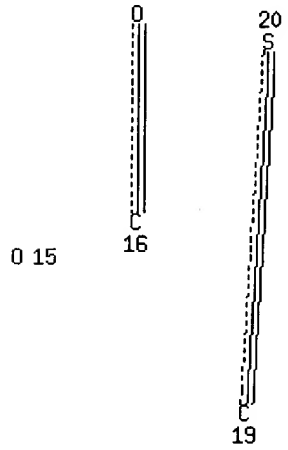
=> d l5
L5 HAS NO ANSWERS
L5 STR



Page 1-A

18

Page 2-A



Page 3-A
VAR G1=15
NODE ATTRIBUTES:
NSPEC IS R AT 1
NSPEC IS R AT 2
NSPEC IS R AT 3
NSPEC IS R AT 4
NSPEC IS R AT 5
NSPEC IS R AT 6
NSPEC IS R AT 7
NSPEC IS R AT 8

```
NSPEC   IS R       AT   9
NSPEC   IS R       AT  10
NSPEC   IS R       AT  11
NSPEC   IS R       AT  12
NSPEC   IS R       AT  13
NSPEC   IS R       AT  14
NSPEC   IS C       AT  15
NSPEC   IS C       AT  16
NSPEC   IS C       AT  17
NSPEC   IS C       AT  18
NSPEC   IS C       AT  19
NSPEC   IS C       AT  20
DEFAULT MLEVEL IS ATOM
MLEVEL  IS CLASS  AT  15 16 18 19 20
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  20

STEREO ATTRIBUTES: NONE


=> s l5 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 13:31:04 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   1701 TO ITERATE

100.0% PROCESSED    1701 ITERATIONS                              0 ANSWERS
SEARCH TIME: 00.00.01

L6             0 SEA SSS FUL L5

=> s l5 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 13:31:12 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   1701 TO ITERATE

100.0% PROCESSED    1701 ITERATIONS                              0 ANSWERS
SEARCH TIME: 00.00.01

L7             0 SEA SSS FUL L5

=> e canphane/cn
E1            1     CANOPY/CN
E2            1     CANP/CN
E3            0 --> CANPHANE/CN
E4            1     CANPLUS 129/CN
E5            1     CANPLUS 300/CN
E6            1     CANPLUS 328/CN
E7            1     CANPLUS 411/CN
E8            1     CANQUIL-400/CN
E9            1     CANRENOATE POTASSIUM/CN
E10           1     CANRENOIC ACID/CN
E11           1     CANRENONE/CN
E12           1     CANSAN TCH/CN

=> e adamantane/cn
```

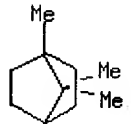
```
E1            1      ADAMANTANAMINE, METHYLENEDI-/CN
E2            1      ADAMANTANAMINE, N,?-DIMETHYL-, HYDROCHLORIDE/CN
E3            1 --> ADAMANTANE/CN
E4            1      ADAMANTANE DIAZIRINE/CN
E5            1      ADAMANTANE HYDRATE/CN
E6            1      ADAMANTANE HYDROCHLORIDE/CN
E7            1      ADAMANTANE METHACRYLATE-TERT-BUTYL METHACRYLATE COPOLYMER/CN
E8            1      ADAMANTANE RADICAL CATION/CN
E9            1      ADAMANTANE, (1-BROMOETHYL)-/CN
E10           1      ADAMANTANE, (METHYLSULFONYL)-/CN
E11           1      ADAMANTANE, 1,1'-ETHYLENEBIS(3-METHYL-/CN
E12           1      ADAMANTANE, 1,1'-ETHYLENEDI-/CN

=> s e3
L8            1 ADAMANTANE/CN

=> d l8

L8   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   281-23-2  REGISTRY
CN   Tricyclo[3.3.1.13,7]decane (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Adamantane (6CI, 8CI)
OTHER NAMES:
CN   NSC 527913
FS   3D CONCORD
MF   C10 H16
CI   COM, RPS
LC   STN Files:   AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
       CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIPPR*,
       DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*,
       HODOC*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC,
       PIRA, PROMT, PS, RTECS*, SPECINFO, TOXCENTER, TULSA, USPAT2, USPATFULL,
       VTB
         (*File contains numerically searchable property data)
     Other Sources:   EINECS**, NDSL**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
```

```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

          2572 REFERENCES IN FILE CA (1907 TO DATE)
           292 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
          2576 REFERENCES IN FILE CAPLUS (1907 TO DATE)
            45 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> e norbornane/cn
E1            1      NORBORNADIENYLIUM TETRAFLUOROBORATE/CN
E2            1      NORBORNANAMINE/CN
E3            1 --> NORBORNANE/CN
E4            1      NORBORNANE CATION RADICAL/CN
E5            1      NORBORNANE DIISOCYANATE/CN
```

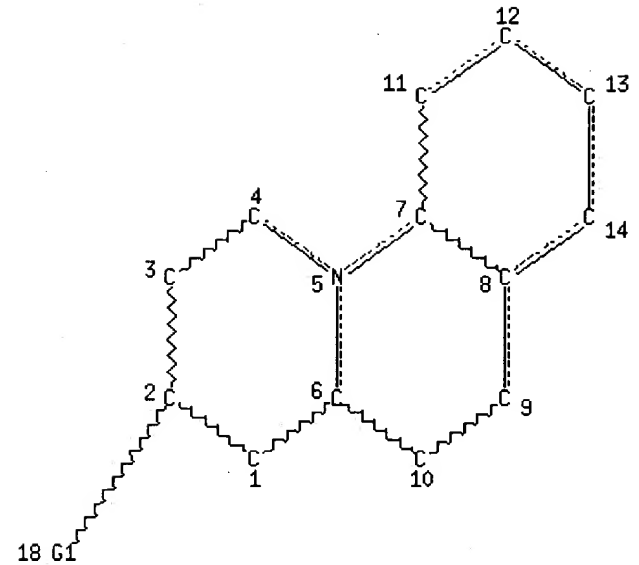
```
E6              1      NORBORNANE DIISOCYANATE HOMOPOLYMER/CN
E7              1      NORBORNANE DIISOCYANATE TRIMER/CN
E8              1      NORBORNANE DIISOCYANATE-PROPOXYLATED BISPHENOL A COPOLYMER/C
                       N
E9              1      NORBORNANE DIISOCYANATE-TRIMETHYLOLPROPANE COPOLYMER/CN
E10             1      NORBORNANE EXO-2,3-ACETONAL ENDO-5,6-CARBONATE/CN
E11             1      NORBORNANE HYDRATE/CN
E12             1      NORBORNANE, (CYCLOHEXYLSULFONYL)-/CN

=> s e3
L9              1 NORBORNANE/CN

=> d l9

L9   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   279-23-2  REGISTRY
CN   Bicyclo[2.2.1]heptane (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Norbornane (6CI, 7CI, 8CI)
OTHER NAMES:
CN   1,4-Endomethylenecyclohexane
CN   Cyclohexane, 1,4-endo-methylene-
CN   Norbornylane
CN   Norcamphane
CN   Norfenchane
CN   Norsantane
CN   NSC 91457
FS   3D CONCORD
MF   C7 H12
CI   COM, RPS
LC   STN Files:   AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS,
       CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN,
       CSCHEM, DETHERM*, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2,
       GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, MSDS-OHS, PIRA, PROMT,
       RTECS*, SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL
         (*File contains numerically searchable property data)
     Other Sources:   EINECS**
         (**Enter CHEMLIST File for up-to-date regulatory information)
```

```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

             725 REFERENCES IN FILE CA (1907 TO DATE)
              81 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
             725 REFERENCES IN FILE CAPLUS (1907 TO DATE)
              33 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> e camphane/cn
E1              1      CAMPESTROSIDE/CN
E2              1      CAMPHAMEDRINE/CN
E3              1  --> CAMPHANE/CN
E4              1      CAMPHANE-2,5-DIONE/CN
E5              1      CAMPHANIC ACID/CN
E6              1      CAMPHANIC ACID AMIDE/CN
```

```
E7              1      CAMPHANIC ACID ANHYDRIDE/CN
E8              1      CAMPHANIC ACID ANILIDE/CN
E9              1      CAMPHANIC ACID AZIDE/CN
E10             1      CAMPHANIC ACID CHLORIDE/CN
E11             1      CAMPHANIC ACID DIETHYLAMIDE/CN
E12             1      CAMPHANIC ACID ETHYL ESTER/CN

=> s e3
L10             1 CAMPHANE/CN

=> d l10

L10  ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   464-15-3  REGISTRY
CN   Bicyclo[2.2.1]heptane, 1,7,7-trimethyl- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Bornane (6CI, 7CI, 8CI)
OTHER NAMES:
CN   1,7,7-Trimethylbicyclo[2.2.1]heptane
CN   Bornylane
CN   Camphane
CN   NSC 17531
FS   3D CONCORD
MF   C10 H18
LC   STN Files:   AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS,
       CASREACT, CHEMCATS, HODOC*, IFICDB, IFIPAT, IFIUDB, MEDLINE, NAPRALERT,
       PIRA, SPECINFO, TOXCENTER, USPAT2, USPATFULL
         (*File contains numerically searchable property data)
```




```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

             295 REFERENCES IN FILE CA (1907 TO DATE)
              71 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
             295 REFERENCES IN FILE CAPLUS (1907 TO DATE)
              13 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=>
L11      STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1               STR
```



Page 1-A

N 17

C 16

O 15

Page 3-A

VAR G1=15/16/17

NODE ATTRIBUTES:

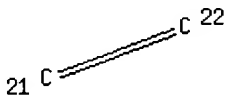
NSPEC IS R AT 1
NSPEC IS R AT 2
NSPEC IS R AT 3
NSPEC IS R AT 4
NSPEC IS R AT 5
NSPEC IS R AT 6
NSPEC IS R AT 7
NSPEC IS R AT 8
NSPEC IS R AT 9
NSPEC IS R AT 10
NSPEC IS R AT 11
NSPEC IS R AT 12
NSPEC IS R AT 13
NSPEC IS R AT 14
NSPEC IS C AT 15
NSPEC IS C AT 16
NSPEC IS C AT 17
NSPEC IS C AT 18
DEFAULT MLEVEL IS ATOM
MLEVEL IS CLASS AT 15 16 17
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 18

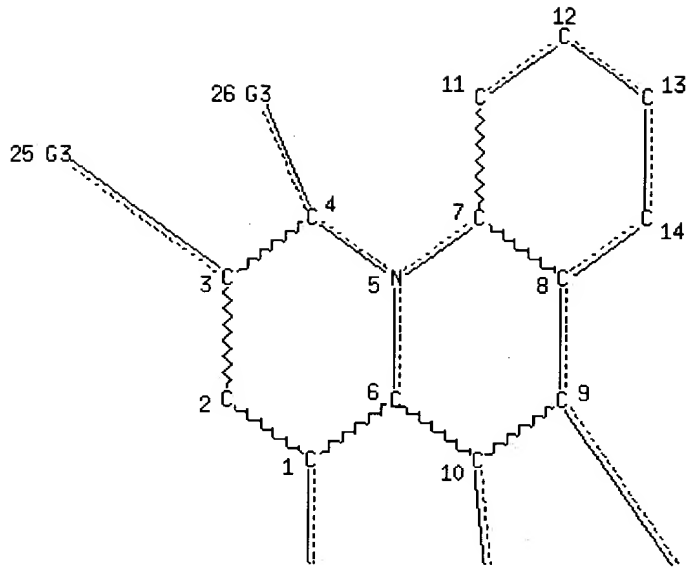
STEREO ATTRIBUTES: NONE

=> s l11
SAMPLE SEARCH INITIATED 13:37:31 FILE 'REGISTRY'

```
SAMPLE SCREEN SEARCH COMPLETED -     37 TO ITERATE

100.0% PROCESSED      37 ITERATIONS                                  0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE   **COMPLETE**
                        BATCH    **COMPLETE**
PROJECTED ITERATIONS:          376 TO     1104
PROJECTED ANSWERS:               0 TO        0

L12            0 SEA SSS SAM L11

=> s l11 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 13:37:35 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -    945 TO ITERATE

100.0% PROCESSED     945 ITERATIONS                                  0 ANSWERS
SEARCH TIME: 00.00.01

L13            0 SEA SSS FUL L11

=>
L14      STRUCTURE UPLOADED

=> d l14
L14 HAS NO ANSWERS
L14              STR
 Cb 30Ak 31H 32
```



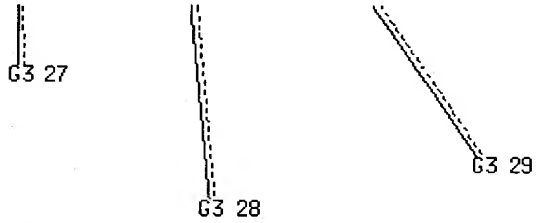
Page 1-A



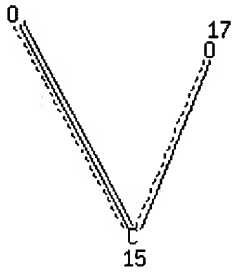
Page 1-B

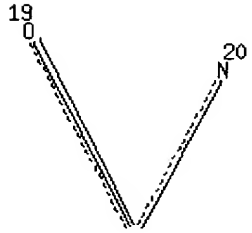
16
O

Page 2-A



Page 2-B





Page 3-A

18
Page 4-A
VAR G3=30/31/32/21/23
NODE ATTRIBUTES:
NSPEC IS R AT 1
NSPEC IS R AT 2
NSPEC IS R AT 3
NSPEC IS R AT 4
NSPEC IS R AT 5
NSPEC IS R AT 6
NSPEC IS R AT 7
NSPEC IS R AT 8
NSPEC IS R AT 9
NSPEC IS R AT 10
NSPEC IS R AT 11
NSPEC IS R AT 12
NSPEC IS R AT 13
NSPEC IS R AT 14
NSPEC IS C AT 15
NSPEC IS C AT 16
NSPEC IS C AT 17
NSPEC IS C AT 18
NSPEC IS C AT 19
NSPEC IS C AT 20
NSPEC IS C AT 21
NSPEC IS C AT 22
NSPEC IS C AT 23
NSPEC IS C AT 24
NSPEC IS C AT 25
NSPEC IS C AT 26
NSPEC IS C AT 27
NSPEC IS C AT 28
NSPEC IS C AT 29
DEFAULT MLEVEL IS ATOM
MLEVEL IS CLASS AT 15 16 17 18 19 20 21 22 23 24 30 31 32
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 32

STEREO ATTRIBUTES: NONE

=> **s l14**
SAMPLE SEARCH INITIATED 13:38:27 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 257 TO ITERATE

100.0% PROCESSED 257 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 4179 TO 6101
PROJECTED ANSWERS: 0 TO 0

L15 0 SEA SSS SAM L14

```
=> s l14 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 13:38:31 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   5122 TO ITERATE

100.0% PROCESSED    5122 ITERATIONS                                  0 ANSWERS
SEARCH TIME: 00.00.01

L16            0 SEA SSS FUL L14

=> d his

     (FILE 'HOME' ENTERED AT 13:24:15 ON 08 APR 2004)

     FILE 'REGISTRY' ENTERED AT 13:24:22 ON 08 APR 2004
L1               STRUCTURE UPLOADED
L2            12 S L1
L3           219 S L1 FULL

     FILE 'HCAPLUS' ENTERED AT 13:27:53 ON 08 APR 2004
L4            58 S L3

     FILE 'REGISTRY' ENTERED AT 13:28:17 ON 08 APR 2004
L5               STRUCTURE UPLOADED
L6             0 S L5 FULL
L7             0 S L5 FULL
                 E CANPHANE/CN
                 E ADAMANTANE/CN
L8             1 S E3
                 E NORBORNANE/CN
L9             1 S E3
                 E CAMPHANE/CN
L10            1 S E3
L11              STRUCTURE UPLOADED
L12            0 S L11
L13            0 S L11 FULL
L14              STRUCTURE UPLOADED
L15            0 S L14
L16            0 S L14 FULL

=> file beilstein
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   646.16     806.25

FILE 'BEILSTEIN' ENTERED AT 13:38:46 ON 08 APR 2004
COPYRIGHT (c) 2004 Beilstein-Institut zur Foerderung der Chemischen Wissenschaften
licensed to Beilstein GmbH and MDL Information Systems GmbH

FILE RELOADED ON OCTOBER 20, 2002
FILE LAST UPDATED ON MARCH 30,2004

FILE COVERS 1771 TO 2003.
 FILE CONTAINS  8,932,479 SUBSTANCES

>>> PLEASE NOTE: Reaction data and substance data are stored in
    separate documents and can not be searched together in one
    query.
    Reaction data for BEILSTEIN compounds may be displayed
```

```
    immediately with the display codes PRE (preparations) and REA
    (reactions). A substance answer set retrieved after the search
    for a chemical name, a molecular formula or a structure search
    for example can be restricted to compounds with available
    reaction information by concatenation with PRE/FA, REA/FA or
    more general with RX/FA. The BEILSTEIN Registry Number (BRN)
    is the link between a BEILSTEIN compound and belonging reactions.
    For more detailed reaction searches BRNs can be selected from
    substance answer sets and searched in the next step as reaction
    partner BRNs - Reactant (RX.RBRN) or Product BRN (RX.PBRN).
    After a search for reaction details substance documents
    associated with reactants or products may be retrieved by
    searching RX.PBRNs or RX.RBRNs as BRNs. <<<


>>> FOR SEARCHING PREPARATIONS SEE HELP PRE  <<<

**********************************************************************
* PLEASE NOTE THAT THERE ARE NO FORMATS FREE OF COST.                *
* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE   *
* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE          *
* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS.                        *
* FOR PRICE INFORMATION SEE HELP COST                                *
**********************************************************************

=> d his

     (FILE 'HOME' ENTERED AT 13:24:15 ON 08 APR 2004)

     FILE 'REGISTRY' ENTERED AT 13:24:22 ON 08 APR 2004
L1              STRUCTURE UPLOADED
L2           12 S L1
L3          219 S L1 FULL

     FILE 'HCAPLUS' ENTERED AT 13:27:53 ON 08 APR 2004
L4           58 S L3

     FILE 'REGISTRY' ENTERED AT 13:28:17 ON 08 APR 2004
L5              STRUCTURE UPLOADED
L6            0 S L5 FULL
L7            0 S L5 FULL
                E CANPHANE/CN
                E ADAMANTANE/CN
L8            1 S E3
                E NORBORNANE/CN
L9            1 S E3
                E CAMPHANE/CN
L10           1 S E3
L11             STRUCTURE UPLOADED
L12           0 S L11
L13           0 S L11 FULL
L14             STRUCTURE UPLOADED
L15           0 S L14
L16           0 S L14 FULL

     FILE 'BEILSTEIN' ENTERED AT 13:38:46 ON 08 APR 2004

=> s l14
SAMPLE SEARCH INITIATED 13:38:55 FILE 'BEILSTEIN'
SAMPLE SCREEN SEARCH COMPLETED -     42 TO ITERATE
```

```
100.0% PROCESSED      42 ITERATIONS                                0 ANSWERS
SEARCH TIME: 00.00.03

FULL FILE PROJECTIONS:  ONLINE   **COMPLETE**
                        BATCH    **COMPLETE**
PROJECTED ITERATIONS:          452 TO     1228
PROJECTED ANSWERS:               0 TO        0

L17            0 SEA SSS SAM L14

=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.06     806.31

FILE 'HCAPLUS' ENTERED AT 13:39:04 ON 08 APR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)


Copyright of the articles to which records in this database refer is
held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.
The CA Lexicon is the copyrighted intellectual property of the
the American Chemical Society and is provided to assist you in searching
databases on STN.  Any dissemination, distribution, copying, or storing
of this information, without the prior written consent of CAS, is
strictly prohibited.

FILE COVERS 1907 - 8 Apr 2004  VOL 140 ISS 15
FILE LAST UPDATED: 7 Apr 2004  (20040407/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> d his

     (FILE 'HOME' ENTERED AT 13:24:15 ON 08 APR 2004)

     FILE 'REGISTRY' ENTERED AT 13:24:22 ON 08 APR 2004
L1             STRUCTURE UPLOADED
L2            12 S L1
L3           219 S L1 FULL

     FILE 'HCAPLUS' ENTERED AT 13:27:53 ON 08 APR 2004
L4            58 S L3

     FILE 'REGISTRY' ENTERED AT 13:28:17 ON 08 APR 2004
L5             STRUCTURE UPLOADED
L6             0 S L5 FULL
L7             0 S L5 FULL
               E CANPHANE/CN
               E ADAMANTANE/CN
L8             1 S E3
               E NORBORNANE/CN
L9             1 S E3
```

```
                E CAMPHANE/CN
L10             1 S E3
L11               STRUCTURE UPLOADED
L12             0 S L11
L13             0 S L11 FULL
L14               STRUCTURE UPLOADED
L15             0 S L14
L16             0 S L14 FULL

     FILE 'BEILSTEIN' ENTERED AT 13:38:46 ON 08 APR 2004
L17             0 S L14

     FILE 'HCAPLUS' ENTERED AT 13:39:04 ON 08 APR 2004

=> d l4, ibib abs fhitstr, 1-58

L4   ANSWER 1 OF 58  HCAPLUS  COPYRIGHT 2004 ACS on STN
```

Full Text | Citing References

```
ACCESSION NUMBER:         2003:937398  HCAPLUS
DOCUMENT NUMBER:          140:173846
TITLE:                    Intramolecular sensitization of europium(III)
                          luminescence by 8-benzyloxyquinoline in aqueous
                          solution
AUTHOR(S):                Maffeo, Davide; Williams, J. A. Gareth
CORPORATE SOURCE:         Department of Chemistry, University of Durham, Durham,
                          DH1 3LE, UK
SOURCE:                   Inorganica Chimica Acta (2003), 355, 127-136
                          CODEN: ICHAA3; ISSN: 0020-1693
PUBLISHER:                Elsevier Science B.V.
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
GI
```

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Two new tetraazamacrocyclic ligands were prepd., in which one of the four nitrogens bears an 8-benzyloxyquinoline group, bound either via a simple methylene unit (-CH2-) (ligand 1), or through a longer, amide linker (-CH2C(O)N(Me)CH2-) (ligand 2), in both cases at the 2-position of the chromophore. The synthesis of ligand 1 involved a reductive amination reaction of the free macrocycle with 8-benzyloxyquinoline-2-carboxaldehyde, while ligand 2 was prepd. by a more conventional alkylation pathway. The other three nitrogens of the macrocycle are functionalized with acetate donors, leading to a DO3A-type ligand suitable for complexation of lanthanide ions. The Eu(III) complexes I and II of ligands 1 and 2, resp., were prepd. Both are luminescent in aq. soln., displaying Eu-based emission upon excitation into the UV absorption bands of the chromophore. From the luminescence lifetimes measured in H2O and D2O, while II [Eu2] has the one expected H2O mol. in the inner-sphere of the metal ion, I [Eu1] has no metal-bound H2O mols. This is attributed to the coordination of the quinoline N to the metal ion, forcing the benzyloxy group into the space normally occupied by the axial H2O mol. However, further anal. shows that the greatly superior quantum yield of [Eu1] over [Eu2] is due to the much higher efficiency of energy transfer in the former, and not to a redn. in nonradiative decay of the excited state; in fact, overall nonradiative deactivation is greater in [Eu1] than

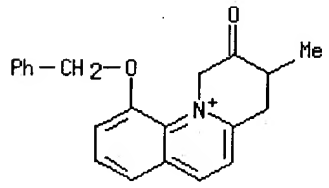
in [Eu2].

IT **656228-75-0P**

RL: BYP (Byproduct); PREP (Preparation)
(byproduct in coupling of 8-benzyloxyquinolinylmethylamine with chloroacetic acid)

RN 656228-75-0 HCAPLUS

CN Benzo[c]quinolizinium, 1,2,3,4-tetrahydro-3-methyl-2-oxo-10-(phenylmethoxy)-, chloride (9CI) (CA INDEX NAME)



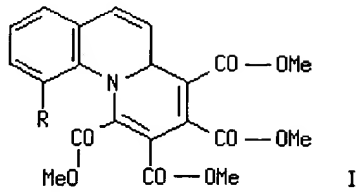
Cl^-

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

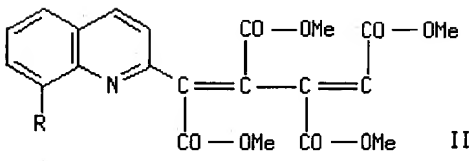
L4 ANSWER 2 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2002:430454 HCAPLUS
DOCUMENT NUMBER: 137:279076
TITLE: The reactions of quinoline and its derivatives with dimethyl acetylenedicarboxylate (DMAD)
AUTHOR(S): Yildirir, Yilmaz; Aydogan, Emine; Disli, Ali
CORPORATE SOURCE: Department of Chemistry, Faculty of Arts and Sciences, Gazi University, Ankara, 06500, Turk.
SOURCE: International Journal of Chemistry (2002), 12(1), 9-12
CODEN: INJCEW
PUBLISHER: Institute of Science & Technology
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:279076
GI



I



II

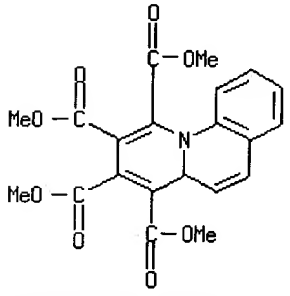
AB Cycloaddn. reactions of quinoline and its derivs. (8-quinolinesulfonic

acid, 8-nitroquinoline, 8-hydroxyquinoline, and 8-methylquinoline) with di-Me acetylenedicarboxylate were studied. Products of the reactions were isolated and their structures were identified by spectroscopic methods. Two types of products (I, R = H, OH, Me and II, R = H, OH) were formed in this reaction and compds. I converted to compds. II, in time.

IT **26593-23-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(cycloaddn. of quinoline and derivs. with acetylenedicarboxylate)

RN 26593-23-7 HCAPLUS

CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, tetramethyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2001:426015 HCAPLUS
DOCUMENT NUMBER: 135:282658
TITLE: Effect of C-ring modifications in benzo[c]quinolizin-3-ones, new selective inhibitors of human 5α-reductase 1
AUTHOR(S): Guarna, A.; Occhiato, E. G.; Machetti, F.; Trabocchi, A.; Scarpi, D.; Danza, G.; Mancina, R.; Comerci, A.; Serio, M.
CORPORATE SOURCE: Dipartimento di Chimica Organica 'U. Schiff' and Centro di Studio sulla Chimica e la Struttura dei Composti Eterociclici e Loro Applicazioni, C.N.R., Universita di Firenze, Florence, I-50121, Italy
SOURCE: Bioorganic & Medicinal Chemistry (2001), 9(6), 1385-1393
CODEN: BMECEP; ISSN: 0968-0896
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:282658

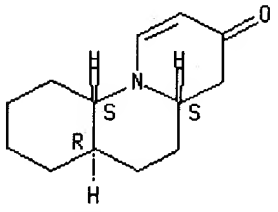
AB The synthesis and the inhibition potency of octahydro- and decahydrobenzo[c]quinolizin-3-one derivs., as new non-steroidal selective inhibitors of human enzyme 5α-reductase type 1, are reported. These compds. differ from the recently reported benzo[c]quinolizin-3-one inhibitors by the presence of a fully or partially satd. C-ring. Inhibition expts. were carried out on 5αR-1 and 5αR-2 expressed by CHO cells. Structure-activity relationships are discussed. The extended planarity of the most potent benzo[c]quinolizin-3-ones as well as favorable interactions of the C-ring unsatn. with the enzyme active site could account for the inhibition activity of these compds.

Non-steroidal octahydro- and decahydrobenzo[c]quinolizin-3-one inhibitors displayed an interesting selectivity toward human enzyme 5α-reductase type 1, the most potent having IC50=58 nM.

IT **365220-41-3P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(benzo[c]quinolizin-3-ones as selective inhibitors of human 5α-reductase 1)

RN 365220-41-3 HCAPLUS
CN 3H-Benzo[c]quinolizin-3-one, 4,4a,5,6,6a,7,8,9,10,10a-decahydro-, (4aR,6aS,10aR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

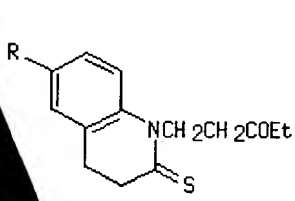


REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

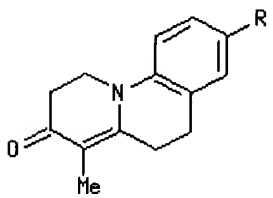
L4 ANSWER 4 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2000:742534 HCAPLUS
DOCUMENT NUMBER: 134:42052
TITLE: Modification of the Aza-Robinson Annulation for the Synthesis of 4-Methylbenzo[c]quinolizin-3-ones, Potent Inhibitors of Steroid 5α-Reductase 1
AUTHOR(S): Guarna, Antonio; Lombardi, Elena; Machetti, Fabrizio; Occhiato, Ernesto G.; Scarpi, Dina
CORPORATE SOURCE: Dipartimento di Chimica Organica U. Schiff and Centro di Studio sulla Chimica e la Struttura dei Composti Eterociclici e loro Applicazioni, C.N.R. Universita di Firenze, Florence, I-50121, Italy
SOURCE: Journal of Organic Chemistry (2000), 65(23), 8093-8095
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:42052
GI



I



II

Modification of aza-Robinson annulation is applicable to the synthesis of N-bridgehead heterocyclic compds. Thus, treating quinolinethiones I (R =

PDDA 1 56
Received Nov. 24, 2000
1st 102(a)
cl 103(a)

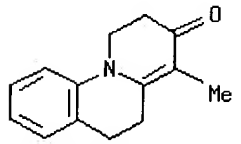
H, Me, Cl) with Me2SO4 gave benzo[c]quinolizinones II.

IT **194979-88-9P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(modification of the aza-Robinson annulation for the synthesis of methylbenzoquinolizinones)

RN 194979-88-9 HCAPLUS

CN 3H-Benzo[c]quinolizin-3-one, 1,2,5,6-tetrahydro-4-methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2000:709583 HCAPLUS

DOCUMENT NUMBER: 134:178436

TITLE: Photochemistry of triazolopyridinium ylides

AUTHOR(S): Abarca, Belen; Ballesteros, Rafael; Houari, Nadia

CORPORATE SOURCE: Departamento de Quimica Organica, Facultad de Farmacia, Universidad de Valencia, Burjassot (Valencia), 46100, Spain

SOURCE: ARKIVOC [online computer file] (2000), 1(3), 274-283
CODEN: AKVCFI
URL: http://www.arkat.org/arkat/journal/Issue3/onweb15/gj15.htm

PUBLISHER: ARKAT Foundation

DOCUMENT TYPE: Journal; (online computer file)

LANGUAGE: English

OTHER SOURCE(S): CASREACT 134:178436

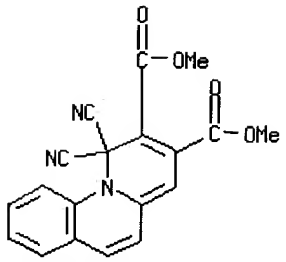
AB The photochem. reaction of triazolopyridinium ylides and their benzologs with Me propiolate or acetylenedicarboxylate in MeCN were studied. The products were similar to those obtained in thermal reactions, although the yields were different. In no case were the 1,3-dipolar cycloadducts obtained.

IT **206189-66-4P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(photochem. reaction of triazolopyridinium ylides with propiolate and acetylenedicarboxylate)

RN 206189-66-4 HCAPLUS

CN 1H-Benzo[c]quinolizine-2,3-dicarboxylic acid, 1,1-dicyano-, dimethyl ester (9CI) (CA INDEX NAME)



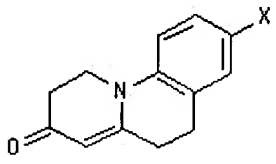
NO

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2000:632698 HCAPLUS
DOCUMENT NUMBER: 133:362693
TITLE: Benzo[c]quinolizin-3-ones: A Novel Class of Potent and Selective Nonsteroidal Inhibitors of Human Steroid 5α-Reductase 1
AUTHOR(S): Guarna, Antonio; Machetti, Fabrizio; Occhiato, Ernesto G.; Scarpi, Dina; Comerci, Alessandra; Danza, Giovanna; Mancina, Rosa; Serio, Mario; Hardy, Kimber
CORPORATE SOURCE: Dipartimento di Chimica Organica U. Schiff and Centro di Studio sulla Chimica e la Struttura dei Composti Eterociclici e loro Applicazioni, Universita di Firenze, Florence, I-50121, Italy
SOURCE: Journal of Medicinal Chemistry (2000), 43(20), 3718-3735
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

Received in Library 10/30/2003 (a).

AB The synthesis and biol. evaluation of a series of novel, selective inhibitors of isoenzyme 1 of human 5α-reductase (5αR) (EC 1.3.99.5) are reported. The inhibitors are 4aH- or 1H-tetrahydrobenzo[c]quinolizin-3-ones bearing at positions 1, 4, 5, or 6 a Me group and at position 8 a hydrogen, Me group, or chlorine atom. All these compds. were tested toward 5αR-1 and 5αR-2 expressed in CHO cells (CHO 1827 and CHO 1829, resp.) resulting in selective inhibitors of the type 1 isoenzyme, with inhibitory potencies (IC50) ranging from 7.6 to 9100 nM. The inhibitors of the 4aH-series, having a double bond at position 1,2, were generally less active than the corresponding inhibitors of the 1H-series having the double bond at position 4,4a on the A ring. The presence of a Me group at position 4, assocd. with a substituent at position 8, detd. the highest inhibition potency (IC50 from 7.6 to 20 nM). The 1H-benzo[c]quinolizin-3-ones I [X = Me, Cl], having Ki values of 5.8 ± 1.8 and 2.7 ± 0.6 nM, resp., toward 5αR-1 expressed in CHO

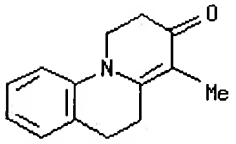
cells, were also tested toward native 5αR-1 in human scalp and 5αR-2 in human prostate homogenates, in comparison with finasteride and the known 5αR-1-selective inhibitor LY191704, and their mechanism of inhibition was detd. They both inhibited the enzyme through a reversible competitive mechanism and again were selective inhibitors of 5αR-1 with IC50 values of 41 nM. These specific features make these inhibitors suitable candidates for further development as drugs in the treatment of DHT-dependent disorders such as acne and androgenic alopecia in men and hirsutism in women.

IT **194979-88-9P**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of benzo[c]quinolizin-3-ones as potent and selective nonsteroidal inhibitors of human steroid 5α-reductase 1)

RN 194979-88-9 HCAPLUS

CN 3H-Benzo[c]quinolizin-3-one, 1,2,5,6-tetrahydro-4-methyl- (9CI) (CA INDEX NAME)

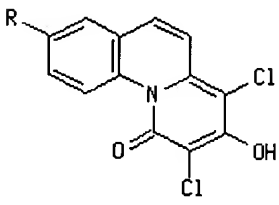


REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

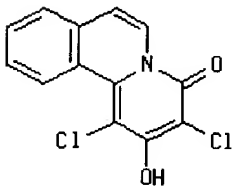
L4 ANSWER 7 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2000:605246 HCAPLUS
DOCUMENT NUMBER: 134:4847
TITLE: A novel annulation to quinolines and isoquinolines under Friedel-Crafts conditions: a one-step synthesis of functionalized pyridoquinolines and pyridoisoquinolines
AUTHOR(S): Mahato, Shashi B.; Garai, Subhadra; Weber, Manuela; Luger, Peter
CORPORATE SOURCE: Indian Institute of Chemical Biology, Calcutta, Jadavpur, 700032, India
SOURCE: Perkin 1 (2000), (17), 2898-2900
CODEN: PERKF9
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:4847
GI



I



II

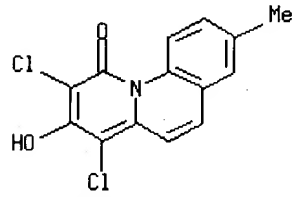
AB A novel one-step synthesis of pyridoquinolines I (R = H, Me, MeO) and pyridoisoquinolines II from quinoline, 6-methyl-, and 6-methoxyquinolines and isoquinoline under Friedel-Crafts conditions is reported. The complete structures of the pyridoquinoline and pyridoisoquinoline analogs obtained by using 6-methylquinoline and isoquinoline as substrates were established by single-crystal X-ray anal.

IT **308123-47-9P**

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (crystal structure and prepn. of pyridoquinolines and -isoquinolines by cyclization of quinolines and isoquinolines with acylating agents)

RN 308123-47-9 HCAPLUS

CN 1H-Benzo[c]quinolizin-1-one, 2,4-dichloro-3-hydroxy-8-methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2000:177171 HCAPLUS

DOCUMENT NUMBER: 132:317634

TITLE: Synthesis of 8-chloro-benzo[c]quinolizin-3-ones as potent and selective inhibitors of human steroid 5α-reductase 1

AUTHOR(S): Guarna, Antonio; Occhiato, Ernesto G.; Scarpi, Dina; Zorn, Chiara; Danza, Giovanna; Comerci, Alessandra; Mancina, Rosa; Serio, Mario

CORPORATE SOURCE: Dipartimento di Chimica Organica "U. Schiff" and Centro di Studio sulla Chimica e la Struttura dei Composti Eterociclici e loro Applicazioni, CNR, Universita di Firenze, Florence, I-50121, Italy

SOURCE: Bioorganic & Medicinal Chemistry Letters (2000), 10(4), 353-356
CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis of a series of differently substituted 8-chloro-benzo[c]quinolizin-3-ones, as potent and selective human steroid 5α-reductase type 1 inhibitors, has been accomplished by a four-step procedure based on the TiCl4-promoted tandem Mannich-Michael cyclization of 2-silyloxy-1,3-butadienes with N-t-Boc iminium ions from quinolin-2-ones. The presence on the benzo[c]quinolizinone nucleus of a Me group and a double bond at positions 6 and 4-4a, resp., gave rise to one of the most potent non-steroidal steroid 5α-reductase-1 inhibitors reported so far (IC50 = 14 nM).

IT **267226-09-5P**

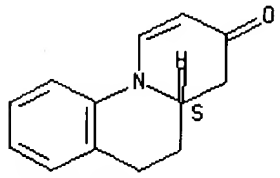
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of chlorobenzoquinolizinones as potent and selective inhibitors of human steroid 5α-reductase 1)

RN 267226-09-5 HCAPLUS

CN 3H-Benzo[c]quinolizin-3-one, 4,4a,5,6-tetrahydro-, (4aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2000:135765 HCAPLUS

DOCUMENT NUMBER: 132:250817

TITLE: Participation of electrophilic groups in the dehydrogenation of 4-substituted piperidines

AUTHOR(S): Mohrle, H.; Jeandree, M.

CORPORATE SOURCE: Institut fur Pharmazeutische Chemie, Heinrich-Heine-Universitat, Dusseldorf, D-40225, Germany

SOURCE: Zeitschrift fuer Naturforschung, B: Chemical Sciences (2000), 55(1), 74-85
CODEN: ZNBSEN; ISSN: 0932-0776

PUBLISHER: Verlag der Zeitschrift fuer Naturforschung

DOCUMENT TYPE: Journal

LANGUAGE: German

AB Dehydrogenation of 2-(1-piperidinyl)-benzaldehydes using Hg(II)-EDTA generated the lactams, indicating a reversible reaction of a carbinolamine intermediate with the formyl group. The yields and oxidn. rates decreased by 4-substitution in the piperidine moiety. The 2-(1-piperidinyl)-acetophenones showed a similar behavior with Hg(II)-EDTA but gave rise to a product pattern. The trans-benzoquinolizidones resulted from the cyclic iminium compds. reacting with the acetyl group as nucleophile. By another oxidn. these species were partially transformed to the quinolinones. An intermediate electrophilic neighboring of the carbonyl group with the cyclic hemiaminals led finally to the lactams. Mechanisms for the reactions are proposed.

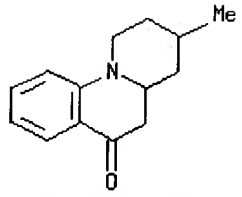
IT **262861-07-4P**

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(dehydrogenation of (4-substituted piperidinyl)benzaldehydes and -acetophenones using Hg(II)-EDTA under participation of electrophilic groups)

RN 262861-07-4 HCAPLUS

CN 6H-Benzo[c]quinolizin-6-one, 1,2,3,4,4a,5-hexahydro-3-methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2000:117047 HCAPLUS
DOCUMENT NUMBER: 132:151692
TITLE: Preparation of (1H)-benzo[c]quinolizin-3-ones for use as 5α-reductase inhibitors
INVENTOR(S): Guarna, Antonio; Serio, Mario; Occhiato, Ernesto Giovanni
PATENT ASSIGNEE(S): Applied Research Systems Ars Holding N.V., Neth. Antilles
SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

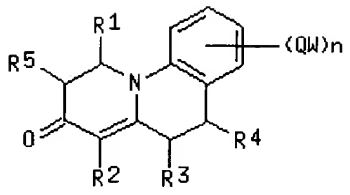
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008019	A1	20000217	WO 1999-EP5277	19990723
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2338498	AA	20000217	CA 1999-2338498	19990723
AU 9963123	A1	20000228	AU 1999-63123	19990723
AU 751873	B2	20020829		
EP 1102765	A1	20010530	EP 1999-941269	19990723
EP 1102765	B1	20030917		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 9912870	A	20011016	BR 1999-12870	19990723
EE 200100060	A	20020617	EE 2001-60	19990723
JP 2002522435	T2	20020723	JP 2000-563652	19990723
NZ 509243	A	20021126	NZ 1999-509243	19990723
CZ 291648	B6	20030416	CZ 2001-434	19990723
AT 250057	E	20031015	AT 1999-941269	19990723
CN 1128148	B	20031119	CN 1999-809204	19990723
PT 1102765	T	20031231	PT 1999-99941269	19990723
ZA 2001000365	A	20010726	ZA 2001-365	20010112
BG 105198	A	20011231	BG 2001-105198	20010130
NO 2001000559	A	20010201	NO 2001-559	20010201

PRIORITY APPLN. INFO.: EP 1998-114524 A 19980803

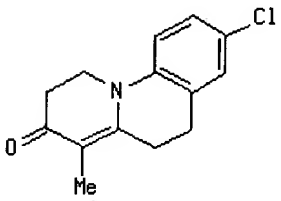
WO 1999-EP5277 W 19990723

OTHER SOURCE(S): MARPAT 132:151692

GI



I



II

AB Benzo[c]quinolizin-3-ones I [R, R1, R2, R3, R4, R5 = H, CN, N3, alkyl alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, halogen, amino, alkyloxy, aryloxy, carboxy, carboxamido; Q = bond, CO, alkyl, alkenyl, alkynyl, cycloalkyl, CONR, NR; W = H, CF3, CN, alkyl alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, halogen, amino, alkyloxy, aryloxy, acyl,carboxy, carboxamido, etc.] were prepd. for use as 5α-reductase inhibitors (no data). Thus, benzo[c]quinolizin-3-one II was prepd. in a two step sequence which comprised N-alkylation of 6-chloro-3,4-dihydro-2(1H)-quinolinethione with Et vinyl ketone using K2CO3 and 18-crown-6 in THF and intramol. cyclocondensation of the resulting N-(3-oxopentyl)quinolinethione using Me2SO4 and DBU in toluene.

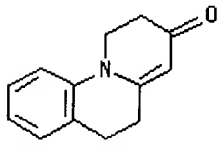
IT **194979-85-6P**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of benzo[c]quinolizin-3-ones for use as 5α-reductase inhibitors)

RN 194979-85-6 HCAPLUS

CN 3H-Benzo[c]quinolizin-3-one, 1,2,5,6-tetrahydro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1999:113517 HCAPLUS

DOCUMENT NUMBER: 130:178758

TITLE: Use of benzo[c]quinolizine derivatives as plant growth regulators

INVENTOR(S): Guarna, Antonio; Serio, Mario

PATENT ASSIGNEE(S): Applied Research Systems ARS Holding N.V., Neth. Antilles

SOURCE: PCT Int. Appl., 14 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

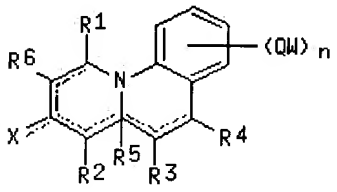
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9905913	A1	19990211	WO 1998-EP4737	19980729
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9891570	A1	19990222	AU 1998-91570	19980729
AU 750092	B2	20020711		
EP 999747	A1	20000517	EP 1998-943798	19980729
EP 999747	B1	20030423		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001511433	T2	20010814	JP 2000-504746	19980729
AT 237938	E	20030515	AT 1998-943798	19980729
ES 2192332	T3	20031001	ES 1998-943798	19980729
US 6514912	B1	20030204	US 2000-480238	20000110
PRIORITY APPLN. INFO.:			IT 1997-FI193 A	19970801
			WO 1998-EP4737 W	19980729

OTHER SOURCE(S): MARPAT 130:178758
GI

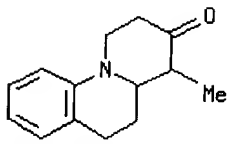


I

AB The benzo[c]quinolizine derivs. I (R1-4, R6 = H, alkyl, alkenyl, alkynyl, aryl, heterocyclyl, etc.; R5 = H, alkyl, arylalkyl, CO2H, etc.; Q = bond, alkyl, alkenyl, alkynyl, CO, etc.; W = H, alkyl, alkenyl, aryl, etc.; n = 1-4; a, b, c, d, e, f and g are single or double bonds) are plant growth regulators.

IT **5569-24-4**
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses) (plant growth regulator)

RN 5569-24-4 HCAPLUS
CN 3H-Benzo[c]quinolizin-3-one, 1,2,4,4a,5,6-hexahydro-4-methyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

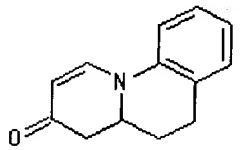


REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

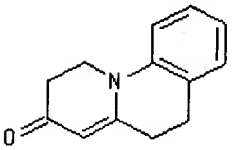
L4 ANSWER 12 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1998:713257 HCAPLUS
DOCUMENT NUMBER: 130:52313
TITLE: Synthesis of benzo[c]quinolizin-3-ones: selective non-steroidal inhibitors of steroid 5α-reductase 1
AUTHOR(S): Guarna, Antonio; Occhiato, Ernesto G.; Scarpi, Dina; Tsai, Ruey; Danza, Giovanna; Comerci, Alessandra; Mancina, Rosa; Serio, Mario
CORPORATE SOURCE: Dipartimento di Chimica Organica "U. Schiff", Centro di Studio sulla Chimica e la Struttura dei Composti Eterociclici e lori Applicazioni, CNR, Univ. di Firenze, Florence, I-50121, Italy
SOURCE: Bioorganic & Medicinal Chemistry Letters (1998), 8(20), 2871-2876
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

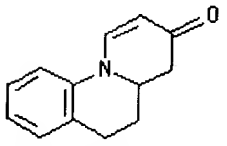


II

AB A short and efficient synthesis of novel benzo[c]quinolizin-3-ones I and II is described. The synthesis is based on the tandem Mannich-Michael cyclization between 2-(silyloxy)-1,3-butadienes and a N-t-Boc iminium ion. I and II are selective inhibitors of human steroid 5α-reductase isoenzyme 1, and thus have potential application as drugs for treatment of male pattern baldness and other DHT-dependent skin disorders.

IT **194979-80-1P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(benzo[c]quinolizin-3-ones as selective inhibitors of steroid 5α-reductase 1)

RN 194979-80-1 HCAPLUS
CN 3H-Benzo[c]quinolizin-3-one, 4,4a,5,6-tetrahydro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

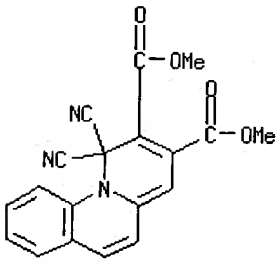
Full Text | Citing References

ACCESSION NUMBER: 1998:289938 HCAPLUS
DOCUMENT NUMBER: 128:294736
TITLE: The reaction between triazolobenzopyridinium and triazolothiazolium ylides with dimethyl acetylenedicarboxylate
AUTHOR(S): Abarca, Belen; Ballesteros, Rafael; Houari, Nadia; Samadi, Aldelouahid
CORPORATE SOURCE: Departamento de Quimica Organica, Facultad de Farmacia, Universidad de Valencia, Valencia, 46100, Spain
SOURCE: Tetrahedron (1998), 54(15), 3913-3918
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The reaction of some [1,2,3]triazolo[1,5-a]quinolinium, [1,2,3]triazolo[5,1-a]isoquinolinium, and [1,2,3]triazolo[5,1-b]thiazolium ylides with di-Me acetylenedicarboxylate is described. Compds. such as di-Me pyrrolo[1,2-a]quinoline-1,2-dicarboxylate, di-Me pyrrolo[2,1-a]isoquinoline-2,3-dicarboxylate, 1,1-dicyano-2,3-dimethoxycarbonyl-1H-pyrido[1,2-a]quinoline, 4,4-dicyano-2,3-dimethoxycarbonyl-4H-pyrido[2,1-a]isoquinoline, and 7-methyl-5,6-dimethoxycarbonylpyrrolo[2,1-a]thiazole, are formed.

IT **206189-66-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(reaction of triazolobenzopyridinium and triazolothiazolium ylides with di-Me acetylenedicarboxylate)

RN 206189-66-4 HCAPLUS
CN 1H-Benzo[c]quinolizine-2,3-dicarboxylic acid, 1,1-dicyano-, dimethyl ester (9CI) (CA INDEX NAME)



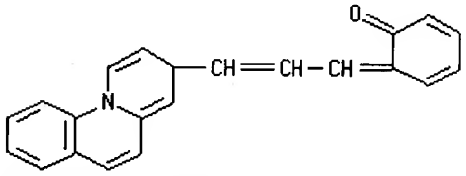
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1998:189098 HCAPLUS
DOCUMENT NUMBER: 128:218354
TITLE: The effect of annulation upon the solvatochromic behavior of related merocyanines
AUTHOR(S): Rezende, Marcos Caroli
CORPORATE SOURCE: Facultad de Quimica y Biologia, Universidad de Santiago de Chile, Santiago, Chile
SOURCE: Journal of the Brazilian Chemical Society (1997), 8(6), 631-635
CODEN: JOCSET; ISSN: 0103-5053

PUBLISHER: Sociedade Brasileira de Quimica
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The effect of annulation of the donor and/or the acceptor ring fragments of related merocyanines is discussed with the aid of a theor. model based on semiempirical calcns. performed with the AM1 method. The theor. expectations are validated with examples of eight solvatochromic dyes described in the literature.
IT **204375-93-9**
RL: PRP (Properties)
(effect of annulation on solvatochromic behavior of related merocyanines)
RN 204375-93-9 HCAPLUS
CN 2,4-Cyclohexadien-1-one, 6-[3-(3H-benzo[c]quinolizin-3-yl)-2-propenylidene]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 15 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
Full Text | Citing References
ACCESSION NUMBER: 1997:542448 HCAPLUS
DOCUMENT NUMBER: 127:220585
TITLE: Benzo[c]quinolizine derivatives, their preparation and use as 5α-reductases inhibitors
INVENTOR(S): Guarna, Antonio; Serio, Mario
PATENT ASSIGNEE(S): Applied Research Systems ARS Holding N.V., Neth. Antilles; Guarna, Antonio; Serio, Mario
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9729107	A1	19970814	WO 1997-EP552	19970207
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9717672	A1	19970828	AU 1997-17672	19970207
AU 711886	B2	19991021		
EP 880520	A1	19981202	EP 1997-903230	19970207
EP 880520	B1	20030416		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO

EE 9800233	A	19981215	EE 1998-233	19970207
EE 4058	B1	20030616		
CN 1210536	A	19990310	CN 1997-192097	19970207
CN 1116296	B	20030730		
JP 2000504680	T2	20000418	JP 1997-528158	19970207
SK 283299	B6	20030502	SK 1998-1044	19970207
AT 237614	E	20030515	AT 1997-903230	19970207
PT 880520	T	20030731	PT 1997-97903230	19970207
ES 2192263	T3	20031001	ES 1997-903230	19970207
EP 926148	A1	19990630	EP 1997-122733	19971223

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

NO 9803444	A	19980724	NO 1998-3444	19980724
US 6303622	B1	20011016	US 1998-117583	19980729
CA 2315055	AA	19990708	CA 1998-2315055	19981221
WO 9933828	A1	19990708	WO 1998-EP8582	19981221

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9924194	A1	19990719	AU 1999-24194	19981221
AU 744105	B2	20020214		
BR 9813836	A	20001010	BR 1998-13836	19981221
EP 1066284	A1	20010110	EP 1998-966711	19981221

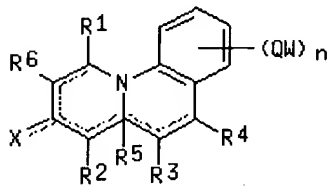
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

EE 200000387	A	20011217	EE 2000-200000387	19981221
JP 2001527074	T2	20011225	JP 2000-526509	19981221
ZA 9811762	A	19990623	ZA 1998-11762	19981222
NO 2000003199	A	20000823	NO 2000-3199	20000620
US 2001044542	A1	20011122	US 2001-888952	20010625
US 6555549	B2	20030429		
US 2001047098	A1	20011129	US 2001-891088	20010625
US 6552034	B2	20030422		

PRIORITY APPLN. INFO.:	IT 1996-FI19	A	19960209
	WO 1997-EP552	W	19970207
	EP 1997-122733	A	19971223
	US 1998-117583	A1	19980729
	WO 1998-EP8582	W	19981221

OTHER SOURCE(S): MARPAT 127:220585

GI



I

AB The benzo[c]quinolizine derivs. I (R1-R4, R6 = H, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocycle, halo, amino azide, alkoxycarbonyl, etc.; R5

=H, alkyl, alkoxycarbonyl, cyano, aryl, heterocycle; X = O, acyl, alkoxycarbonyl, NO2, carbamoyl; Q = bond, alkyl, alkenyl, alkynyl, amino, etc., W = H, alkyl, alkenyl, alkynyl, aryl, aryloxy, amino, halo, etc.) were prepd. as 5α-reductases inhibitors (no data). Thus, N-(tert-butoxycarbonyl)-2-ethoxy-1,2,3,4-tetrahydroquinline was cyclized with 2-(trimethylsilyloxy)-1,3-butadiene to give 1,2,4,4a,5,6-hexahydro-(11H)-benzo[c]quinolizin-3-one.

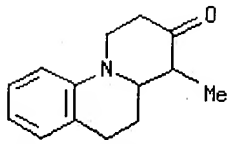
IT **5569-24-4P**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of benzo[c]quinolizine derivs. as 5α-reductases inhibitors)

RN 5569-24-4 HCAPLUS

CN 3H-Benzo[c]quinolizin-3-one, 1,2,4,4a,5,6-hexahydro-4-methyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

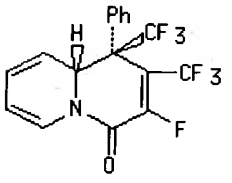


L4 ANSWER 16 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

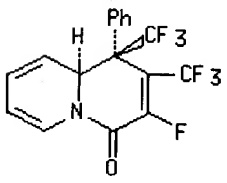
Full Text | Citing References

ACCESSION NUMBER:	1995:628081 HCAPLUS
DOCUMENT NUMBER:	123:198596
TITLE:	The cycloaddition of [Z]-1,1,2,5,5,5-hexafluoro-3-trifluoromethyl-1,3-pentadiene with pyridine derivatives
AUTHOR(S):	Yamamoto, Michiharu; Burton, Donald J.; Swenson, Dale C.
CORPORATE SOURCE:	Department of Chemistry, University of Iowa, Iowa City, IA, 52242, USA
SOURCE:	Journal of Fluorine Chemistry (1995), 72(1), 49-54 CODEN: JFLCAR; ISSN: 0022-1139
PUBLISHER:	Elsevier
DOCUMENT TYPE:	Journal
LANGUAGE:	English
OTHER SOURCE(S):	CASREACT 123:198596

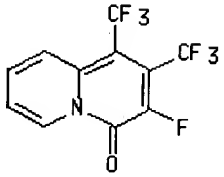
GI



I



II



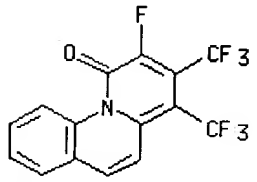
III

AB The reaction of [Z]-1,1,2,5,5,5-hexafluoro-4-phenyl-3-trifluoromethyl-1,3-pentadiene, prepd. in several steps from perfluorovinyl bromide, and pyridine results in the formation of the 4-quinolizone derivs. I and II. The reactions of [Z]-1,1,2,5,5,5-hexafluoro-4-iodo-3-trifluoromethyl-1,3-pentadiene, also prepd. from perfluorovinyl bromide, and pyridine derivs. result in the formation of the 4-quinolizone derivs., e.g. III.

IT **167864-62-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of quinolizone derivs. by cycloaddn. of hexafluoro(trifluoromethyl)pentadienes with pyridine derivs.)

RN 167864-62-2 HCAPLUS

CN 1H-Benzo[c]quinolizin-1-one, 2-fluoro-3,4-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)



L4 ANSWER 17 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1995:271246 HCAPLUS
DOCUMENT NUMBER: 122:58162
TITLE: Synthesis and solvatochromic behavior of stilbazolium merocyanine-type dyes having a benzo[c]quinolizinium ring
AUTHOR(S): Arai, Sadao; Arai, Hitoshi; Hida, Mitsuhiko; Yamagishi, Takamichi
CORPORATE SOURCE: Faculty of Engineering, tokyo Metropolitan University, Tokyo, 192-03, Japan
SOURCE: Heterocycles (1994), 38(11), 2449-54
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A series of stilbazolium merocyanine-type dyes, 3-[2-(hydroxy-substituted aryl)vinyl]benzo[c]quinolizinium perchlorates, was synthesized by the aldol-type condensation of 3-methylbenzo[c]quinolizinium perchlorate with hydroxybenzaldehyde derivs. in 45-85% yields. The deprotonated form of the dyes exhibited the pronounced neg. solvatochromism almost over the whole visible region. The neg. solvatochromic character of the dyes having a benzo[c]quinolizinium ring was more striking than that of the isomeric dyes having a benzo[a]quinolizinium ring.

IT **160258-30-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; synthesis and solvatochromic behavior of stilbazolium merocyanine-type dyes having a benzo[c]quinolizinium ring)

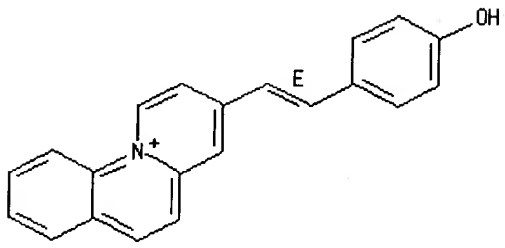
RN 160258-30-0 HCAPLUS

CN Benzo[c]quinolizinium, 3-[2-(4-hydroxyphenyl)ethenyl]-, (E)-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

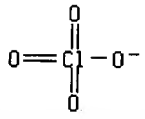
CRN 160258-29-7
CMF C21 H16 N O

Double bond geometry as shown.



CM 2

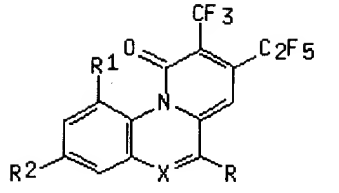
CRN 14797-73-0
CMF Cl O4

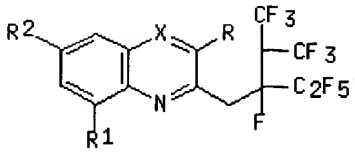


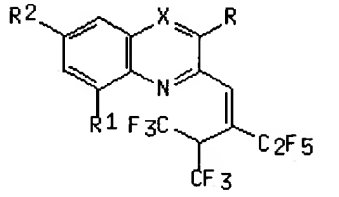
L4 ANSWER 18 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

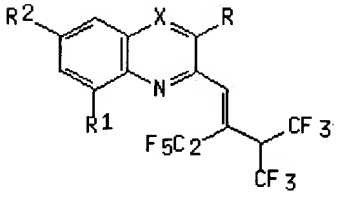
Full Text | Citing References

ACCESSION NUMBER: 1993:254714 HCAPLUS
DOCUMENT NUMBER: 118:254714
TITLE: Synthesis of perfluoroalkyl-1H-benzo[c]quinolizin-1-one derivatives from 2-methylquinolines
AUTHOR(S): Konakahara, Takeo; Kubota, Shin; Sano, Kazuya; Murayama, Takashi
CORPORATE SOURCE: Fac. Sci. Technol., Science Univ. Tokyo, Noda, 278, Japan
SOURCE: Nippon Kagaku Kaishi (1992), (12), 1455-62
CODEN: NKAKB8; ISSN: 0369-4577
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
OTHER SOURCE(S): CASREACT 118:254714
GI


I


IV


V

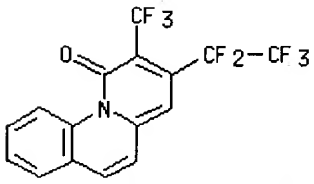

VI

AB As an extension of the investigation on heterocycles using silicon reagents, prepn. of title compds. I (X = CH, CMe; R = H, Me; R1 = H, Cl; R2 = H, Me, Cl) was studied. An addn.-cyclizaton reaction of perfluoro(2-methyl-2-pentene) (II) with a 2-quinolylmethyl carbanion generated from 2-(trimethylsilylmethy)quinoline (III), in the presence of a catalytic amt. of tetrabutylammonium fluoride afforded 3-pentafluroethyl-2-trifluoromethylbenzo[c]quinolizin-1-one I (X = CH, R-R2 = H) in 36% yield, accompanied with the corresponding adducts IV and E/Z alkenes V and VI (1, 29 and 11% yields, resp.). Intermediates IV-VI were effectively transformed into the final product I (X = CH, R-R3 = H) on heating in wet xylene. An equil. const. KE→Z = 2.44 for E-Z isomerization of V in refluxing dry THF, and the calcd. ΔGE→Z was -2.5 × 103 JK-1mol-1. Under the optimized conditions ([III]:[II]:[KF] = 1:3:1; at -5° for 3 h in THF, then refluxed for 6 h in xylene after quenching with water and replacement of the solvent), the reaction of III or its methyl- or chloro-substituted analogs gave the corresponding benzo[c]quinolizin-1-ones I in 83-93%, yields, and I (X = N, R = Me, R1 = R2 = H) in 35% yield.

IT **147641-23-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 147641-23-4 HCAPLUS

CN 1H-Benzo[c]quinolizin-1-one, 3-(pentafluoroethyl)-2-(trifluoromethyl)-(9CI) (CA INDEX NAME)



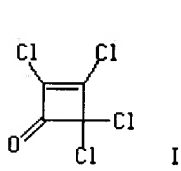
L4 ANSWER 19 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

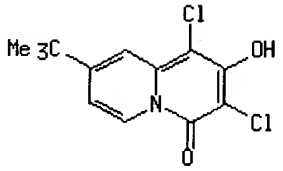
ACCESSION NUMBER: 1993:6845 HCAPLUS
DOCUMENT NUMBER: 118:6845
TITLE: Oxocarbons and related compounds. Part 18. The reaction of perchlorocyclobutenone with pyridines: a novel synthesis of 4H-4-quinolizinones
AUTHOR(S): Schmidt, Arthur H.; Duemmler, Mario
CORPORATE SOURCE: Abt. Org. Chem. Biochem., Fachlochsch. Fresenius,

	Wiesbaden, D-6200, Germany
SOURCE:	Synthesis (1992), (10), 969-72 CODEN: SYNTBF; ISSN: 0039-7881
DOCUMENT TYPE:	Journal
LANGUAGE:	German
OTHER SOURCE(S):	CASREACT 118:6845

GI



I



II

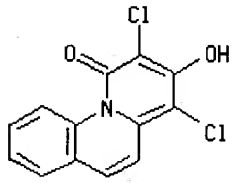
AB Heating of tetrachlorocyclobutenone (I) with pyridines followed by treatment with water affords 1,3-dichloro-2-hydroxy-4H-4-quinolizinones, e.g. II, and 1,3-dichloro-2-hydroxy-4-oxo-4H-quinolizinecarboxylates. The reaction did not proceed via intermediate (trichloropxocyclobutenyl)pyridinium salts to give betaines. The reaction pathway has been secured by trapping 1,2,3-trichloro-8-(1,1-dimethylethyl)-4H-4-quinoliznone and by its successive conversion to II on heating with water.

IT **144785-48-8P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by ring opening and reaction of perchlorocyclobutenone with pyridine)

RN 144785-48-8 HCAPLUS

CN 1H-Benzo[c]quinolizin-1-one, 2,4-dichloro-3-hydroxy- (9CI) (CA INDEX NAME)

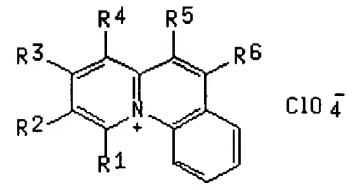


L4 ANSWER 20 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

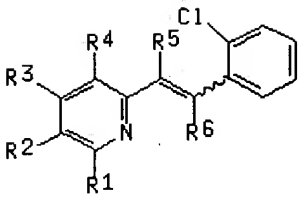
Full Text | Citing References

ACCESSION NUMBER:	1992:426301 HCAPLUS
DOCUMENT NUMBER:	117:26301
TITLE:	Synthesis and reactions of methylbenzo[c]quinolizinium salts
AUTHOR(S):	Arai, Sadao; Arai, Hitoshi; Tabuchi, Kunihisa; Yamagishi, Takamichi; Hida, Mitsuhiko
CORPORATE SOURCE:	Fac. Technol., Tokyo Metrop. Univ., Tokyo, 192-03, Japan
SOURCE:	Journal of Heterocyclic Chemistry (1992), 29(1), 215-20 CODEN: JHTCAD; ISSN: 0022-152X
DOCUMENT TYPE:	Journal
LANGUAGE:	English

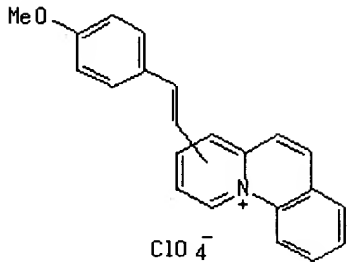
GI



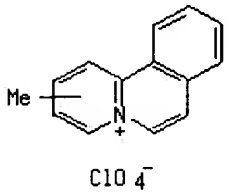
I



II



III



IV

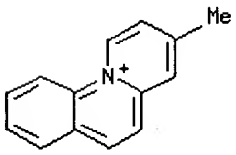
AB Methylbenzo[c]quinolizinium salts I (R1, R2, R3, R4, R5, R6 = H, Me), including four new monomethyl derivs., were synthesized by thermal-intramol. quaternization or irradn. with selected wavelengths (290 < λ < 340 nm and λ > 400 nm) of the [(chlorophenyl)vinyl]pyridines II in acetonitrile. I (R1 = Me, R2-R6 = H; R1 = R2 = R3 = R5 = R6 = H, R4 = Me; R1-R5 = H, R6 = Me) reacted with p-methoxybenzaldehyde in the presence of bis(1-piperidino)(p-methoxyphenyl)methane to yield trans-(p-methoxystyryl)benzo[c]quinoliziniu m salts III (position of styryl group = 1, 3, 6). The reactivity of I and methylbenzo[a]quinolizinium salts IV (Me position = 1-11) is discussed on the basis of their π-electron energy.

IT **142055-68-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and condensation of, with methoxybenzaldehyde)

RN 142055-68-3 HCAPLUS
CN Benzo[c]quinolizinium, 3-methyl-, perchlorate (9CI) (CA INDEX NAME)

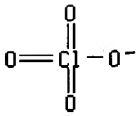
CM 1

CRN 142055-67-2
CMF C14 H12 N



CM 2

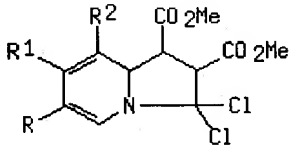
CRN 14797-73-0
CMF Cl O4



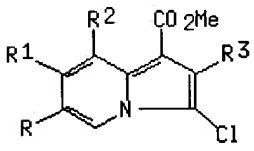
L4 ANSWER 21 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1990:531933 HCAPLUS
DOCUMENT NUMBER: 113:131933
TITLE: 1,3-Dipolar cycloadditions of ylides formed from pyridine and dichlorocarbene
AUTHOR(S): Khlebnikov, A. F.; Kostik, E. I.; Kostikov, R. R.; Bespalov, V. Ya.
CORPORATE SOURCE: Leningr. Gos. Univ., Leningrad, 199004, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1990), (3), 355-62
CODEN: KGSSAQ; ISSN: 0453-8234
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI



I

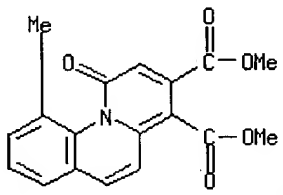


II

AB Pyridinium dichloromethylides reacted with di-Me maleate to give tetrahydroindolizinedicarboxylates (I; R, R2 = H, Me, Br; R1 = H, Me, Cl, PhCO), which were easily dehydrochlorinated and dehydrogenated to give indolizinedicarboxylates (II, R3 = CO2Me). 4-Picolinium dichloromethylide reacted with Me 3-phenylpropiolate to give II (R = R2 = H, R1 = Me, R3 = Ph) regioselectively. The exptl. results were compared with HMO predictions.

IT **129247-00-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 129247-00-3 HCAPLUS
CN 1H-Benzo[c]quinolizine-3,4-dicarboxylic acid, 10-methyl-1-oxo-, dimethyl ester (9CI) (CA INDEX NAME)



L4 ANSWER 22 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1989:240099 HCAPLUS
DOCUMENT NUMBER: 110:240099
TITLE: Forming of direct positive color images
INVENTOR(S): Hirano, Shigeo; Inoue, Akiyuki
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.

CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63246742	A2	19881013	JP 1987-77609	19870401

PRIORITY APPLN. INFO.: JP 1987-77609 19870401

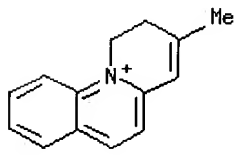
AB The method is claimed, for processing direct-pos. Ag halide color photog. materials having (1) ≥1 emulsion layer(s) contg. non-fogged internal latent image type Ag halide grains whose max. sensitivity wavelength is ≥670 nm and (2) a color-forming agent (coupler) in the said emulsion layer(s) or in the layer adjacent to the emulsion layer involves imagewise exposure and development in a surface developer in the presence of a nucleation agent and an N-contg. heterocyclic nucleation promoter. Optionally the imagewise exposed color photog. materials are fogging-exposed before or during development, and the development may be carried out in the absence of the nucleation agent. The nucleation agent and the promoter may be added to the photosensitive materials. The presence of the nucleation promoter reduces the problems resulting from the relatively unstable IR sensitizers, and hence the method gives pos. images with good color reprodn. The method is esp. useful in prepg. hard copies from electronic imaging systems.

IT **121018-55-1**
RL: USES (Uses)
(direct pos. color photog. nucleation promoter)

RN 121018-55-1 HCAPLUS
CN Benzo[c]quinolizinium, 1,2-dihydro-3-methyl-, perchlorate (9CI) (CA INDEX NAME)

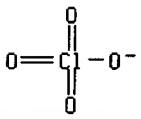
CM 1

CRN 121018-54-0
CMF C14 H14 N



CM 2

CRN 14797-73-0
CMF Cl O4



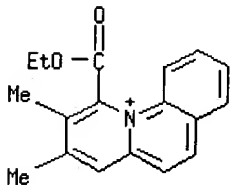
L4 ANSWER 23 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1988:482501 HCAPLUS
DOCUMENT NUMBER: 109:82501
TITLE: Influence of micellar media on the fluorescence of various benzo- and methylquinolizinium salts
AUTHOR(S): Martin, M. A.; Del Castillo, B.; Lerner, D. A.; Ezquerra, J.; Alvarez-Builla, J.
CORPORATE SOURCE: Fac. Farm., Univ. Complutense, Madrid, 28040, Spain
SOURCE: Analytica Chimica Acta (1988), 205(1-2), 117-27
CODEN: ACACAM; ISSN: 0003-2670
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The behavior of several different micellar system (anionic, cationic and non-ionic) on the fluorescence of quinolizinium salts was studied. Important factors, such as pH and ionic strength that influence fluorescence parameters, are discussed. Fourteen quinolizinium salts (benzo and Me derivs.) were examd. as fluorescent probes in micellar media. All of them showed a marked increase of fluorescence intensity when sodium dodecyl sulfate solns. of crit. micelle concn. (CMC) are added. The presence of nonionic surfactants did not change the fluorescent emission of the probes. The emission intensity is much decreased when N-cetyl-N,N,N-trimethylammonium bromide concns. are above the CMC. Changes in pH do not significantly affect the fluorescence intensity of the benzo derivs. Increasing the ionic strength decreases the fluorescence. For 9-cyanobenzo[a]phenanthro[9,10-g]quinolizinium chloride, the spectrum changes when the surfactant concn. is higher than the CMC; therefore this compd. is considered to be a good fluorescent probe in micellar media.

IT **108180-82-1**
RL: PRP (Properties)
(fluorescence of, in micellar solns., effects of surfactants and pH on)
RN 108180-82-1 HCAPLUS
CN Benzo[c]quinolizinium, 1-(ethoxycarbonyl)-2,3-dimethyl-, bromide (9CI) (CA INDEX NAME)



Br^-

L4 ANSWER 24 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

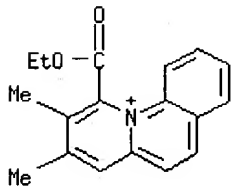
ACCESSION NUMBER: 1988:431555 HCAPLUS
DOCUMENT NUMBER: 109:31555
TITLE: Study of the luminescence properties of a new series of quinolizinium salts and their interaction with DNA
AUTHOR(S): Martin, M. A.; Del Castillo, B.; Lerner, D. A.
CORPORATE SOURCE: Fac. Farm., Univ. Complutense, Madrid, 28040, Spain
SOURCE: Analytica Chimica Acta (1988), 205(1-2), 105-15
CODEN: ACACAM; ISSN: 0003-2670
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The spectrofluorometric characteristics of a new group of benzo- and methyl-quinolizinium salts at room temp. and 77 K are reported. At room temp., linear calibration is wide; 10-9M 9-cyanobenzo[a]phenanthro[9,10-g]quinolizinium chloride can be detected in methanolic soln. and 10-7M in aq. soln. The polynuclear compds. show the most intense luminescence bands, and a significant hypsochromic shift of the fluorescence emission max. was obsd. at 77 K compared with room temp. For the 2,3-di-Ph derivs., the presence of a methoxy substituent produces a marked Stokes' shift, because it causes a decrease in the planarity of the mol. The benzo compds. are similar in structure to the alkaloid coralyne, which has significant antileukemic activity. The fused planar arom. compds. are shown to bind with DNA.

IT **108180-82-1**
RL: BIOL (Biological study)
(fluorescence and DNA interaction with, structure in)

RN 108180-82-1 HCAPLUS

CN Benzo[c]quinolizinium, 1-(ethoxycarbonyl)-2,3-dimethyl-, bromide (9CI) (CA INDEX NAME)

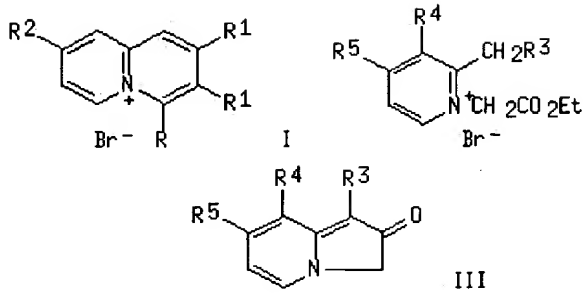


Br^-

L4 ANSWER 25 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1987:196234 HCAPLUS
DOCUMENT NUMBER: 106:196234
TITLE: 2-Methylpyridinium salts as 1,4-dinucleophiles. II. Westphal condensation with substituted pyridinium substrates
AUTHOR(S): Ezquerra, J.; Builla, J. Alvarez
CORPORATE SOURCE: Fac. Farm., Univ. Complutense, Madrid, 28040, Spain
SOURCE: Journal of Heterocyclic Chemistry (1986), 23(4), 1151-7
CODEN: JHTCAD; ISSN: 0022-152X
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 106:196234
GI

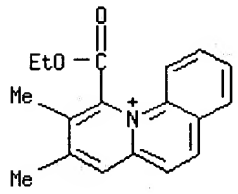


AB Condensation of α-methylpyridinium, -quinolinium and -isoquinolinium salts with 1,2-dicarbonyls in the presence of base gave quinolizinium derivs., e.g., I (R = H, CO2Et; R1 = Ph, substituted Ph; R2 = H, Me). In an analogous process, α-benzyl derivs. II [R3 = Ph, substituted Ph; R4 = R5 = H; R4R5 = (CH:CH)2] gave indolizinones III by intramol. cyclizations.

IT **108180-82-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 108180-82-1 HCAPLUS

CN Benzo[c]quinolizinium, 1-(ethoxycarbonyl)-2,3-dimethyl-, bromide (9CI) (CA INDEX NAME)

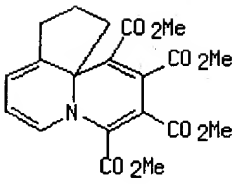


Br-

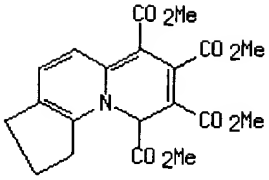
L4 ANSWER 26 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1985:595974 HCAPLUS
DOCUMENT NUMBER: 103:195974
TITLE: Addition reactions of heterocyclic compounds. Part 81. Products from dimethyl acetylenedicarboxylate with some cycloalkyl[b]pyridines
AUTHOR(S): Abbott, Patrick J.; Acheson, R. Morrin; Choi, Michael C. K.
CORPORATE SOURCE: Dep. Biochem., Univ. Oxford, Oxford, OX1 3QU, UK
SOURCE: Journal of Chemical Research, Synopses (1985), (6), 169
CODEN: JRPSDC; ISSN: 0308-2342
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 103:195974
GI



II



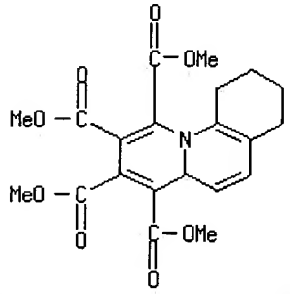
III

AB Treatment of cycloalkyl[b]pyridines with MeO2CC≡CCO2Me (I) gave tetra-Me 9aH-quinolizine-1,2,3,4-tetracarboxylates along with other quinolizines and oxoquinolizines. E.g., treatment of 6,7-dihydro-5H-cyclopenta[b]pyridine with I in DMF for 12 days gave tetracarboxylates II and III.

IT **99087-66-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 99087-66-8 HCAPLUS

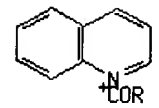
CN 7H-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, 4a,8,9,10-tetrahydro-, tetramethyl ester (9CI) (CA INDEX NAME)



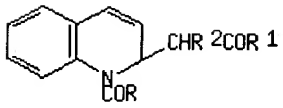
L4 ANSWER 27 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

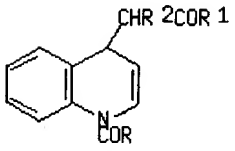
ACCESSION NUMBER: 1984:610941 HCAPLUS
DOCUMENT NUMBER: 101:210941
TITLE: Addition of trimethylsilyl enol ethers to quinolinium salts: a facile synthesis of methyl 2-(2-oxoalkyl)-1,2-dihydroquinoline-1-carboxylates and their cyclization
AUTHOR(S): Akiba, Kinya; Kobayashi, Toshifumi; Yamamoto, Yohsuke
CORPORATE SOURCE: Fac. Sci., Hiroshima Univ., Hiroshima, 730, Japan
SOURCE: Heterocycles (1984), 22(7), 1519-22
CODEN: HTCYAM; ISSN: 0385-5414
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 101:210941
GI



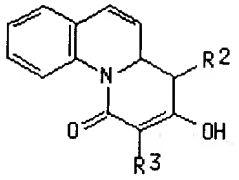
I



II



III



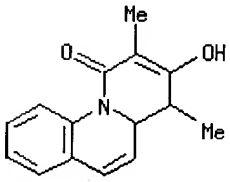
IV

AB Addn. of R2CH:CR1OSiMe3 [R1, R2 = Me, H; Ph, H; Et, Me; OMe, Me; or R1R2 = (CH2)4] to the quinolinium salts I (R = Me, OMe, OEt, OCH2CCl3) gave 85-99% mixts. of quinoline derivs. II and III. II (R - R2 = OMe, Et, Me; OMe, Me, H) were treated with NaH to give the benzoquinolizine derivs. IV (R2 = Me, Me; H, H; resp.).

IT **92637-11-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 92637-11-1 HCAPLUS

CN 1H-Benzo[c]quinolizin-1-one, 4,4a-dihydro-3-hydroxy-2,4-dimethyl- (9CI) (CA INDEX NAME)



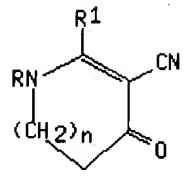
L4 ANSWER 28 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1983:612524 HCAPLUS
DOCUMENT NUMBER: 99:212524
TITLE: 1,2-Polymethyleneketocyanoaza heterocycles
INVENTOR(S): Volovenko, Yu. M.; Babichev, F. S.; Pustovit, Yu. M.
PATENT ASSIGNEE(S): Kiev State University, USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1983, (25), 88.
CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 1027166	A1	19830707	SU 1981-3339358	19810911

PRIORITY APPLN. INFO.: SU 1981-3339358 19810911
OTHER SOURCE(S): CASREACT 99:212524
GI



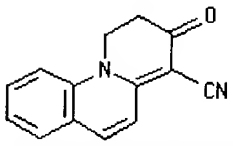
I

AB Compds. I (RR1 = o-C6H4CH:CH, o-C6H4C6H4-o, o-C6H4NMe; n = 1, 2) are prepd. by treating RN:CR1CH(CN)CO(CH2)nCH2R2 (R2 = Cl, Br) with org. bases under reflux.

IT **87905-54-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 87905-54-2 HCAPLUS

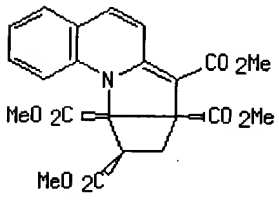
CN 1H-Benzo[c]quinolizine-4-carbonitrile, 2,3-dihydro-3-oxo- (9CI) (CA INDEX NAME)



L4 ANSWER 29 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1980:110806 HCAPLUS
DOCUMENT NUMBER: 92:110806
TITLE: Addition reactions of heterocyclic compounds. Part 69. Further studies of reactions between 2-alkylquinolines and dimethyl acetylenedicarboxylate
AUTHOR(S): Acheson, R. Morrin; Procter, Garry
CORPORATE SOURCE: Dep. Biochem., Univ. Oxford, Oxford, OX1 3QU, UK
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1979), (9), 2171-9
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 92:110806
GI



II

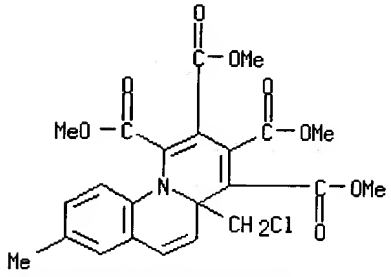
AB The reactions of MeO2CC≡CCO2Me (I) with Et quinoline-2-acetate, other quinolines with activated 2-Me groups, and 2-acetoxyquinoline were studied spectroscopically. Mechanistic schemes are proposed for the

formation of cyclobutapyrroloquinoline II by the cycloaddn. reaction of 2-methylquinoline with I. Reactions of II, based on its previously reported azepine structure (A. et al., 1968), are reinterpreted using 13C NMR data.

IT **72813-97-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 72813-97-9 HCAPLUS

CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, 4a-(chloromethyl)-8-methyl-, tetramethyl ester (9CI) (CA INDEX NAME)

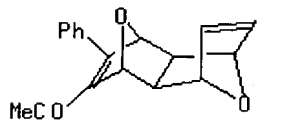


L4 ANSWER 30 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

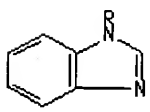
Full Text | Citing References

ACCESSION NUMBER:	1979:491477 HCAPLUS
DOCUMENT NUMBER:	91:91477
TITLE:	Addition reactions of heterocyclic compounds. Part 67. Products from 1-phenylbut-1-yn-3-one with various heterocycles, and from dimethyl acetylenedicarboxylate with some 2-substituted pyridines
AUTHOR(S):	Acheson, R. Morrin; Wallis, John D.; Woollard, John
CORPORATE SOURCE:	Dep. Biochem., Univ. Oxford, Oxford, UK
SOURCE:	Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1979), (3), 584-90 CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE:	Journal
LANGUAGE:	English
OTHER SOURCE(S):	CASREACT 91:91477

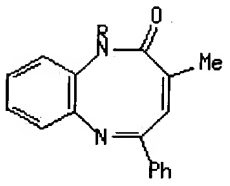
GI



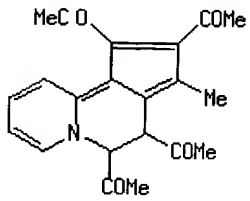
II



III



IV

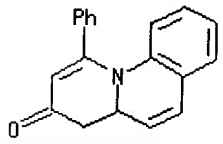


V

AB Treating PhC≡CCOMe (I) with 1-alkylpyrroles effected dimerization, whereas with furan, the adduct II was formed. With 3-methylpyridine and

quinoline, I gave dihydroquinolizinones. Treating I with benzimidazole (III; R = H) gave mainly Z-III (R = CPh:CHCOMe) with some of the corresponding E-isomer whereas with III (R = Me, Et, CH2Ph), ring expansion to benzodiazocinones IV took place. Treating 1-(2-pyridyl)butan-2-one with MeO2CC≡CCO2Me gave quinolizine V, whereas other pyridines gave quinolizines, azepines, and indolizines.

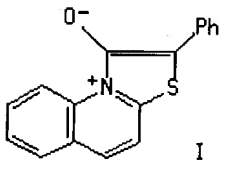
IT **71127-12-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 71127-12-3 HCAPLUS
CN 3H-Benzo[c]quinolizin-3-one, 4,4a-dihydro-1-phenyl- (9CI) (CA INDEX NAME)



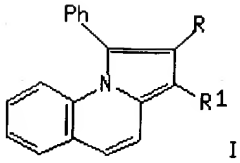
L4 ANSWER 31 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

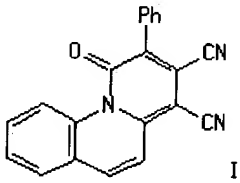
ACCESSION NUMBER: 1978:459850 HCAPLUS
DOCUMENT NUMBER: 89:59850
TITLE: Mesoionic compounds. 44. Synthesis and cycloaddition reactions of the anhydro-1-hydroxythiazolo[3,2-a]quinolinium hydroxide system
AUTHOR(S): Potts, Kevin T.; Choudhury, Dilip R.
CORPORATE SOURCE: Dep. Chem., Rensselaer Polytech. Inst., Troy, NY, USA
SOURCE: Journal of Organic Chemistry (1978), 43(13), 2700-2
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 89:59850
GI



I



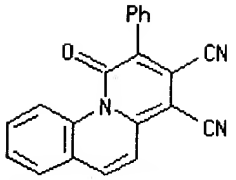
II



III

AB The meso-ionic compd. I, prepd. by condensing 2-mercaptoquinoline with PhCHBrCOCl or the corresponding acid, reacted with MeO2CC≡CCO2Me or HC≡CCO2Et to give pyridoquinolines II (R = R1 = CO2Me; R = H, R1 = CO2Et), resp. PhCOC≡CCOPh gave no cycloaddn. product, but fumaronitrile reacted readily to give pyridoquinoline III.

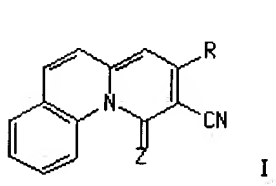
IT **66102-83-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 66102-83-8 HCAPLUS
CN 1H-Benzo[c]quinolizine-3,4-dicarbonitrile, 1-oxo-2-phenyl- (9CI) (CA INDEX NAME)



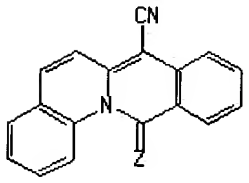
L4 ANSWER 32 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1978:6687 HCAPLUS
DOCUMENT NUMBER: 88:6687
TITLE: Synthesis of quinolizinones by the condensation of ylidenemalonodinitriles with quinoline 1-oxide
AUTHOR(S): Douglass, James E.; Hunt, David A.
CORPORATE SOURCE: Dep. Chem., Marshall Univ., Huntington, WV, USA
SOURCE: Journal of Organic Chemistry (1977), 42(24), 3974-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 88:6687
GI



I

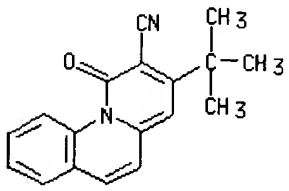


II

AB Quinoline 1-oxide and Ac2O in glycine was treated with (NC)2C:CMeR (R = CMe3, Ph) and Et3N in glycine at room temp. to give benzoquinolizines I (R = CMe3, Ph; Z = NH) which were hydrolyzed without isolation with aq. AcOH contg. 2 drops HBr soln. to give 60.4 and 68.2%, resp. benzoquinolizinones I (R = CMe3, Ph; Z = O). Under the same conditions, 2-NCC6H4CH2CN gave 47.7% isolable dibenzoquinolizinone imine II (Z = NH) and 64% dibenzoquinolizinone II (Z = O).

IT **63702-22-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

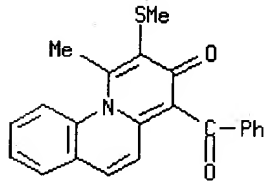
RN 63702-22-7 HCAPLUS
CN 1H-Benzo[c]quinolizine-2-carbonitrile, 3-(1,1-dimethylethyl)-1-oxo- (9CI) (CA INDEX NAME)



L4 ANSWER 33 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1976:59142 HCAPLUS
DOCUMENT NUMBER: 84:59142
TITLE: Stable sulfur ylides. IV. Reaction of dimethylsulfonium acetylmethoxycarbonylmethylide and dimethylsulfonium diacetylmethylide with quinoline 1-oxide
AUTHOR(S): Watanabe, Mitsuaki; Kodera, Makoto; Kinoshita, Toshio; Furukawa, Sunao
CORPORATE SOURCE: Fac. Pharm. Sci., Nagasaki Univ., Nagasaki, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1975), 23(11), 2598-604
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 84:59142
GI For diagram(s), see printed CA Issue.
AB Me2S+C-(COMe)CO2Me reacted with quinoline 1-oxide (I) in the presence of BzCl to give pyrrolo[1,2-a]quinolines II(R = H, 2-quinolyl)and III. Similarly, Me2S+C-(COMe)2 and 3H-pyrido[1,2-a]quinoline IV.
IT **58346-57-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 58346-57-9 HCAPLUS
CN 3H-Benzo[c]quinolizin-3-one, 4-benzoyl-1-methyl-2-(methylthio)- (9CI) (CA INDEX NAME)

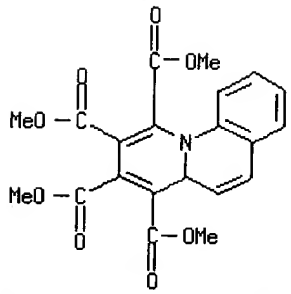


L4 ANSWER 34 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1975:111924 HCAPLUS
DOCUMENT NUMBER: 82:111924
TITLE: Photoisomerization of benzo[c]quinolizines. Isolation of the first 2H-quinolizines derivative
AUTHOR(S): Plunkett, A. Owen
CORPORATE SOURCE: Dep. Chem., Portsmouth Polytech., Portsmouth, UK
SOURCE: Tetrahedron Letters (1974), (48), 4181-2
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB Irradn. of tetra-Me 4aH-benzo[c]quinolizine-1,2,3,4-tetracarboxylate (I) in C6H6 gave the 3H-benzo[c]quinolizine II, the 1H tautomer of I, a benzo[c]indolizine, and a red dimer.
IT **26593-23-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(isomerization of, photochem.)
RN 26593-23-7 HCAPLUS
CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, tetramethyl ester

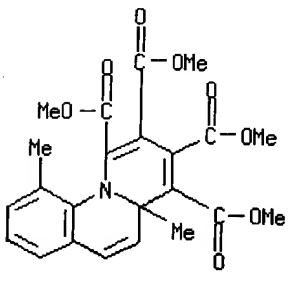
(6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L4 ANSWER 35 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1973:491951 HCAPLUS
DOCUMENT NUMBER: 79:91951
TITLE: Addition reactions of heterocyclic compounds. LII. Adducts from substituted 2-methylquinolines and dimethyl acetylenedicarboxylate
AUTHOR(S): Acheson, R. Morrin; Nisbet, Donald F.
CORPORATE SOURCE: Dep. Biochem., Univ. Oxf., Oxford, UK
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1973), (13), 1338-46
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB Mono-, di-. and trimethylquinolines with MeO2CC≡CCO2Me gave dark red adducts of two types, thought to be geometric isomers. E.g. 2-methylquinoline with MeO2CC≡CCO2Me gave a mixt. contg. hexa-Me 6,7,7a,8-tetrahydrobenzo[f]cyclopenta[a]quinolizine-6,7,7a,8,9,-10-hexacarboxylate (I) and an isomer. Other products from these reactions included benzo[c]quinolizine-, azepino [1,2-a]quinoline-, and 2-propenylquinolinecarboxylates. 2,8-Dimethyl- and 2,4,6,8-tetramethylquinoline also gave 2-[tris(methoxycarbonyl)phenyl]quinolines.
IT **49616-77-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 49616-77-5 HCAPLUS
CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, 4a,10-dimethyl-, tetramethyl ester (9CI) (CA INDEX NAME)



L4 ANSWER 36 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1972:114251 HCAPLUS
DOCUMENT NUMBER: 76:114251
TITLE: High-modulus-elasticity polycarbonate compositions
INVENTOR(S): Jackson, Winston J., Jr.; Caldwell, John R.
PATENT ASSIGNEE(S): Eastman Kodak Co.
SOURCE: U.S., 10 pp. Continuation-in-part of U.S. 3,386,935 (CA 69;28318h).
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

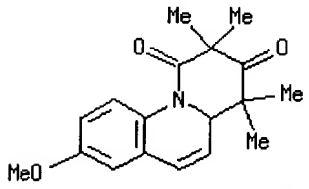
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3625877	A	19711207	US 1968-696124	19680108

PRIORITY APPLN. INFO.: US 1968-696124 19680108

AB Addns. of 2-50% stiffening agent, such as polystyrene thioglycol [34568-07-5] with mol. wt. 444-3400, abietyl alc. (I) [666-84-2] hydrogenated I, and mono and diesters obtained from the condensation of unsatd. and hydrogenated I with mono-and dicarboxylic acids contg. .leq.19 C atoms, to bisphenol polycarbonates and polyesters increased the modulus, tensile strength, and hardness of the polymers while decreasing elongation. Thus, a bisphenol A-phosgene copolymer [25971-63-5] was mixed with 20% Me abietate [127-25-3] and the compn. was injection molded into articles with modulus 4.7 .tim. 105 psi, break strength 12,700 psi and elongation at break 4%. Articles molded from a polymer compn. contg. 20% di-Bu phthalate had modulus 3.0 .tim. 105 psi, break strength 7000 psi, and elongation at break 14%.

IT **16977-99-4**
RL: USES (Uses)
(stiffening agents, for polyesters)

RN 16977-99-4 HCAPLUS
CN 1H-Benzo[c]quinolizine-1,3(2H)-dione, 4,4a-dihydro-8-methoxy-2,2,4,4-tetramethyl- (8CI, 9CI) (CA INDEX NAME)

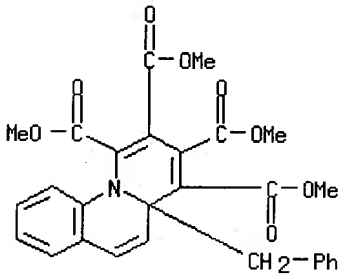


L4 ANSWER 37 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

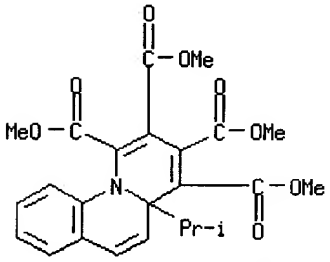
ACCESSION NUMBER: 1971:540662 HCAPLUS
DOCUMENT NUMBER: 75:140662
TITLE: Addition reactions of heterocyclic compounds. XLV. New azepines from substituted 2-methylquinolines and dialkyl acetylenedicarboxylates
AUTHOR(S): Acheson, R. M.; Nisbet, D. F.
CORPORATE SOURCE: Dep. Biochem., Univ. Oxford, Oxford, UK
SOURCE: Journal of the Chemical Society [Section] C: Organic (1971), (19), 3291-6
CODEN: JSOOAX; ISSN: 0022-4952

DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB 3- and 4-Substituted 2-methylquinolines (e.g. 2,4-dimethylquinoline) reacted with MeO2CC≡CCO2Me to give tetra-Me 10,11-dihydroazepino-[1,2-a]quinoline-7,8,9,10-tetracarboxylates (e.g. I) and tetra-Me 4a-methyl-4aH-benzo[c]quinolizine-1,2,3,4-tetracarboxylates (e.g. II). 2-Benzylquinoline reacted similarly, but 2-ethyl-and 2,3-dimethylquinoline gave mixts. of the azepinoquinoline-7,8,9,10- and -7,8,9,11-tetracarboxylates.
IT **33898-14-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 33898-14-5 HCAPLUS
CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, 4a-benzyl-, tetramethyl ester (8CI) (CA INDEX NAME)



L4 ANSWER 38 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
Full Text | Citing References
ACCESSION NUMBER: 1971:540657 HCAPLUS
DOCUMENT NUMBER: 75:140657
TITLE: Addition reactions of heterocyclic compounds. XLIV. Synthesis and photoisomerism of some quinolizine esters
AUTHOR(S): Acheson, R. M.; Stubbs, J. K.
CORPORATE SOURCE: Dep. Biochem., Univ. Oxford, Oxford, UK
SOURCE: Journal of the Chemical Society [Section] C: Organic (1971), (19), 3285-91
CODEN: JSOOAX; ISSN: 0022-4952
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB D labeling showed that the thermal rearrangement of tetra-Me 4aH-benzo[c]quinolizine-1,2,3,4-tetracarboxylate into the 1H-isomer is an intramol. process whereas the photochem. conversion involves D exchange with MeOH as solvent. MeO2CC≡CCO2Me reacted with 2-isopropyl- and 2-styrylquinoline, 2,3-dihydro-1H-cyclopenta[b]quinoline, and 1,2,3,4-tetrahydroacridine to give tetra-Me 4a-isopropyl- and 4a-styryl-4aH-benzo[c]quinolizine-1,2,3,4-tetracarboxylates, tetra-Me 6,7-dihydro-5H-benzo[c]cyclopenta[j]quinolizine-1,2,3,4-tetracarboxylate (I), and tetra-Me 5,6,7,8-tetrahydrodibenzo[cj]quinolizine-1,2,3,4-tetracarboxylate (II), resp. Irradn. of these quinolizines and other quinolizines with bridgehead H atoms or alkyl groups caused migration of the bridgehead group to C-1 in sterically favorable cases, sometimes with the formation of pyrroloazepines.
IT **33922-40-6P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and photochem. rearrangement of)
RN 33922-40-6 HCAPLUS
CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, 4a-isopropyl-, tetramethyl ester (8CI) (CA INDEX NAME)



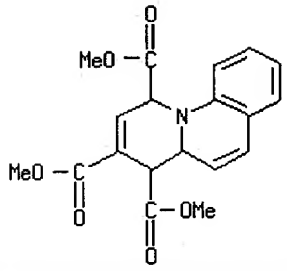
L4 ANSWER 39 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1971:529616 HCAPLUS
DOCUMENT NUMBER: 75:129616
TITLE: Addition reactions of heterocyclic compounds. XLVI. Reactions of acetylenic esters with pyridines in the presence of proton donors, and with alkyl 3-(2-pyridyl)-trans-acrylates
AUTHOR(S): Acheson, R. M.; Woollard, J. McK.
CORPORATE SOURCE: Dep. Biochem., Univ. Oxford, Oxford, UK
SOURCE: Journal of the Chemical Society [Section] C: Organic (1971), (19), 3296-305
CODEN: JSOOAX; ISSN: 0022-4952
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 75:129616

AB 3,5-Dimethylpyridine and HC≡CCO2Me gave Me 1,2-dihydro-1-[trans-2-(methoxycarbonyl)vinyl]-3,5-dimethyl-2-pyridinepropiolate. Pyridine and its 3-Me and 3,5-di-Me derivs. reacted with HC≡CCO2Me-MeOH to give Me 1,2-dihydro-2-methoxy-1-pyridineacrylates, and with HC≡CCO2-Me-H2O to give Me 1-pyridineacrylates contg. a (methoxycarbonylvinyloxy)(methoxycarbonyl)vinyl side chain. Reaction of 3,5-dimethylpyridine with HC≡CCO2Me-PhOH gave a 1:19 mixt. of Me cis and trans-phenoxyacrylates. Et 3-(2-pyridyl)-trans-acrylate with acetylenic mono- and diesters gave 4H-quinolizines via a spiro intermediate, with apparent migration of an ester group.

IT **33802-96-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 33802-96-9 HCAPLUS
CN 1H-Benzo[c]quinolizine-1,3,4-tricarboxylic acid, 4,4a-dihydro-, trimethyl ester (8CI) (CA INDEX NAME)



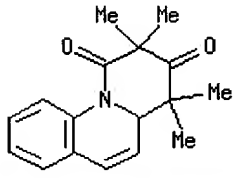
L4 ANSWER 40 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1971:498516 HCAPLUS
DOCUMENT NUMBER: 75:98516
TITLE: Ketenes. XIV. Adducts of dimethylketene with C:N compounds
AUTHOR(S): Martin, James Cuthbert; Brannock, Kent C.; Burpitt, Robert D.; Gott, P. Glenn; Hoyle, V. A., Jr.
CORPORATE SOURCE: Tennessee Eastman Co. Div., Eastman Kodak Co., Kingsport, TN, USA
SOURCE: Journal of Organic Chemistry (1971), 36(16), 2211-15
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 75:98516

AB The structures of the 2:1 adducts of dimethylketene with azomethines and N-heterocycles were incorrectly assigned in the early literature. These materials are oxazinone derivs. rather than piperidinediones. For some C.N compds., bulky substituents on the N of the azomethine and use of solvents of low polarity favor β-lactam formation at the expense of oxazinone.

IT **6082-64-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 6082-64-0 HCAPLUS
CN 1H-Benzo[c]quinolizine-1,3(2H)-dione, 4,4a-dihydro-2,2,4,4-tetramethyl- (7CI, 8CI) (CA INDEX NAME)



L4 ANSWER 41 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

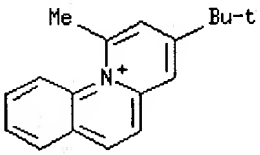
Full Text | Citing References

ACCESSION NUMBER: 1971:141480 HCAPLUS
DOCUMENT NUMBER: 74:141480
TITLE: Benzo[c]quinolizinium salts from pyrylium salts and 2-aminobenzaldehyde
AUTHOR(S): Dimroth, Karl; Odenwaelder, Heinrich
CORPORATE SOURCE: Inst. Org. Chem., Univ. Marburg, Marburg/Lahn, Fed. Rep. Ger.
SOURCE: Tetrahedron Letters (1971), (6), 553-4

CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: German
GI For diagram(s), see printed CA Issue.
AB Six benzo[c]quinolizinium salts (I, R = Ph or Me; R1 = Ph or tert-Bu; R2 = H or Me; and X = BF4, Br, and I) were prepd. in 46-73% yields by heating HOAc solns. contg. the pyrylium salts II and 2-aminobenzaldehyde, under N.
IT **31994-08-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 31994-08-8 HCAPLUS
CN Benzo[c]quinolizinium, 3-tert-butyl-1-methyl-, tetrafluoroborate(1-) (8CI) (CA INDEX NAME)

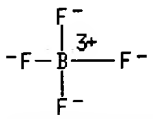
CM 1

CRN 46954-07-8
CMF C18 H20 N



CM 2

CRN 14874-70-5
CMF B F4
CCI CCS

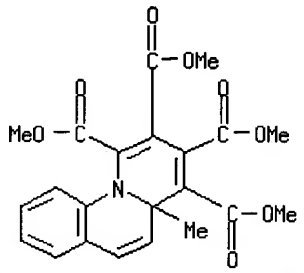


L4 ANSWER 42 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1970:3340 HCAPLUS
DOCUMENT NUMBER: 72:3340
TITLE: Addition reactions of heterocyclic compounds. XLI. Photolysis of some quinolizine esters
AUTHOR(S): Acheson, Richard M.; Stubbs, J. K.
CORPORATE SOURCE: Dep. Biochem., Oxford, UK
SOURCE: Journal of the Chemical Society [Section] C: Organic (1969), (17), 2316-19
CODEN: JSOOAX; ISSN: 0022-4952
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB The irradn. of some tetramethyl 9aH-quinolizine-1,2,3,4-tetracarboxylates gave low yields of pyrrolo[1,2-a]azepines (e.g. I); similar 4aH-benzo[c]quinolizines gave corresponding 1H-isomers and other compds. The NMR and mass spectra and mode of formation of the products are discussed.

IT 17260-83-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(photolysis of)
RN 17260-83-2 HCAPLUS
CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, 4a-methyl-, tetramethyl ester (7CI, 8CI) (CA INDEX NAME)



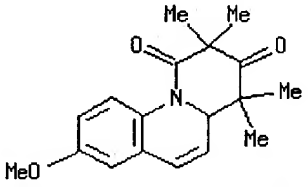
L4 ANSWER 43 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1968:428318 HCAPLUS
DOCUMENT NUMBER: 69:28318
TITLE: High modulus polyester and polycarbonate compositions
INVENTOR(S): Jackson, Winston J., Jr.; Caldwell, John R.
PATENT ASSIGNEE(S): Eastman Kodak Co.
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3386935	A	19680604	US 1966-561370	19660629

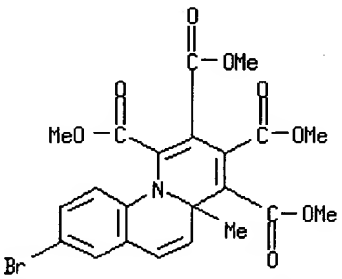
PRIORITY APPLN. INFO.: US 1966-561370 19660629
GI For diagram(s), see printed CA Issue.
AB Antiplasticizers increase the modulus, tensile strength, m.p., heat-distortion temp., and hardness of polycarbonate and polyester compns. making them useful for the prepn. of films, fibers, and shaped articles. Thus, to a polycarbonate with inherent viscosity 1.01 prepd. from bisphenol A and COCl2 was added 20 wt. % polystyrylene glycol (I) (mol. wt. 500). The resulting compn. had modulus 4.6 × 105 psi., break strength 13,500 psi. and 4% elongation at break, compared with the same polycarbonate with no additive or with conventionally used dibutyl phthalate, resp., modulus 3.0-3.3 × 105, 3.0 × 105 psi., break strength 9000-9500, 7000 psi.; and 20-90%, 14% elongation at break. Similar tests were performed on other polycarbonates and additives. Polyesters were also studied.
IT 16977-99-4
RL: USES (Uses)
(as antiplasticizer, for polyesters)
RN 16977-99-4 HCAPLUS
CN 1H-Benzo[c]quinolizine-1,3(2H)-dione, 4,4a-dihydro-8-methoxy-2,2,4,4-tetramethyl- (8CI, 9CI) (CA INDEX NAME)



L4 ANSWER 44 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1968:68849 HCAPLUS
DOCUMENT NUMBER: 68:68849
TITLE: Addition reactions of heterocyclic compounds. XXX. Acetylenedicarboxylic esters with benzopyridines possessing activated methyl groups
AUTHOR(S): Acheson, Richard M.; Gagan, J. M. F.; Harrison, Derek R.
CORPORATE SOURCE: Dep. Biochem., Oxford, UK
SOURCE: Journal of the Chemical Society [Section] C: Organic (1968), (4), 362-78
CODEN: JSOOAX; ISSN: 0022-4952
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB Dimethyl and diethyl acetylenedicarboxylate, with 2-methylquinoline and some derivs., 1-methylisoquinoline, and 6-methylphenanthridine, give dihydroazepines with the migration of an ester group; benzoquinolizines, such as I, and other products are also formed. The N.M.R. spectra of the ethoxycarbonyldihydroazepines and some derivs. were fully analyzed. Hydrogenation, protonation, bromination, hydrolysis, and oxidn. of the azepines were investigated, and a scheme for their formation is proposed. The N.M.R. spectra for some benzoquinolizines are tabulated. 36 references.
IT **17247-10-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 17247-10-8 HCAPLUS
CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, 8-bromo-4a-methyl-, tetramethyl ester (8CI) (CA INDEX NAME)

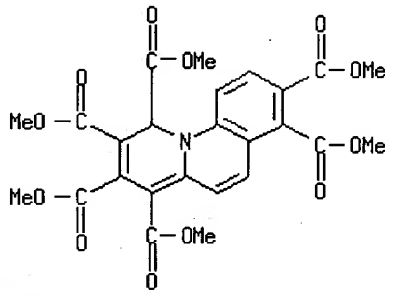


L4 ANSWER 45 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

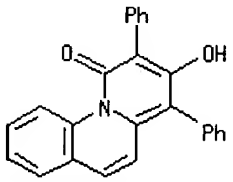
ACCESSION NUMBER: 1968:68845 HCAPLUS
DOCUMENT NUMBER: 68:68845
TITLE: Addition reactions of heterocyclic compounds. XXXIII. New adducts from some pyridines and dimethyl

acetylenedicarboxylate
AUTHOR(S): Acheson, Richard M.; Foxton, Michael W.; Hands, Anthony R.
CORPORATE SOURCE: Dep. Biochem., Oxford, UK
SOURCE: Journal of the Chemical Society [Section] C: Organic (1968), (4), 387-9
CODEN: JSOOAX; ISSN: 0022-4952
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 1,2- and 1,3-Adducts were obtained from both 2-phenyl- and 2-vinylpyridines with dimethyl acetylenedicarboxylate, and their structures deduced largely from N.M.R. spectra. The adducts from 2-phenylpyridine possess one very high-field ester resonance due to shielding by the phenyl ring.
IT **17880-55-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 17880-55-6 HCAPLUS
CN 1H-Benzo[c]quinolizine-1,2,3,4,7,8-hexacarboxylic acid, hexamethyl ester (8CI) (CA INDEX NAME)



L4 ANSWER 46 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
Full Text | Citing References
ACCESSION NUMBER: 1968:39445 HCAPLUS
DOCUMENT NUMBER: 68:39445
TITLE: Syntheses of heterocycles. XCIX. Quinolizines and indolizines. 4. Synthesis of hydroxybenzoquinolizinones
AUTHOR(S): Kappe, Thomas
CORPORATE SOURCE: Univ. Graz, Graz, Australia
SOURCE: Monatshefte fuer Chemie (1967), 98(6), 2148-56
CODEN: MOCHAP
DOCUMENT TYPE: Journal
LANGUAGE: German
OTHER SOURCE(S): CASREACT 68:39445
GI For diagram(s), see printed CA Issue.
AB 2-Alkylquinolines (I) react with monosubstituted 2,4,6-trichlorophenyl malonates CHR(CO2C6H2Cl3)2 (II) at 250° to give derivs. of hydroxybenzo[c] quinolizinone. The reaction of quinaldine itself with II leads to pyronoquinolizinones (III). The reaction of II with 1-methylisoquinoline yields 2-hydroxy-4H-benzo[a]quinolizin-4-ones, and with 6-alkylphenanthridines dibenzo[a,c]quinolizinones are obtained. Carbon suboxide (C3O2) is added readily to ethyl 2-quinolylacetate yielding 4-ethoxycarbonyl-3-hydroxy-1H-benzo[c]quinolizin-1-one.
IT **16956-10-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)
RN 16956-10-8 HCAPLUS
CN 1H-Benzo[c]quinolizin-1-one, 3-hydroxy-2,4-diphenyl- (8CI) (CA INDEX NAME)



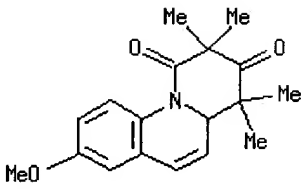
L4 ANSWER 47 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1967:464959 HCAPLUS
DOCUMENT NUMBER: 67:64959
TITLE: Antiplasticization. II. Characteristics of antiplasticizers
AUTHOR(S): Jackson, Winston Jerome, Jr.; Caldwell, John R.
CORPORATE SOURCE: Tennessee Eastman Co., Kingsport, TN, USA
SOURCE: Journal of Applied Polymer Science (1967), 11(2), 211-26
CODEN: JAPNAB; ISSN: 0021-8995
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The characteristics of materials which act as antiplasticizers for bisphenol polycarbonates are discussed. Antiplasticizers increase the modulus and tensile strength of polycarbonate films and lower the elongation, while plasticizers decrease the modulus and tensile strength, and, in sufficient quantities, increase the elongation. Films of polycarbonates contg. additives were cast from CH2Cl2 onto glass plates [antiplasticizer, modulus ×10-5 (psi.), yield strength (psi.), break strength (psi.), elongation at break (%), Elmendorf trear strength (g./mil) given]: none, 3.0-3.3, 8500-9000, 9000-9500, 20-90, 15; Aroclor 1242 (chlorinated biphenyl), 3.9, -, 9000, 9, -; Aroclor 1254, 4.5, -, 14,200, 4, 24; HO(CHPhCH2O)nH (mol. wt. 500), 4.6, -, 13,500, 4, 22; 1-(2,4-dinitrophenyl)-2-phenylethene, 3.7, -, 9800, 4, 20; 2,2'-dinitrobiphenyl, 4.4, -, 12,000, 4, 22; 3,4-dichlorophenyl benzenesulfonate, 3.8, 10,000, 9300, 11, 21; 2,5-dimethyldiphenyl sulfone, 4.2, 9500, 9700, 15, 21; 2,4-dimethoxydiphenyl sulfone, 4.6, 12,000, 10,200, 12, 19; N,N'-diphenyl-N,N'-ditosylethylenediamine, 4.4, -, 12,300, 5, 19; bis[2,2-dimethyl-3-(m-tolyloxy)propyl] carbonate, 4.3, -, 10,100, 3, -; bis(2,4,6-tribromophenoxyethyl) isophthalate, 4.3, -, 12,700, 5, 24; pentaerythritol tetrakis[α-(3-hydroxy-4-benzoylphenoxy)acetate], 4.3, -, 13,500, 4, 23; Abalyn (Me abietate), 4.7, -, 12,700, 4, 23; 1-isopropylidene-4,4-dimethyl-4,4a-dihydro-1H, 3H,[1,3]oxazino[3,4-a]quinolin-3-one, 4.3, -, 12,700, 5,27; 2,2,4,4-tetramethyl-8-methoxy-4aH-benzo[c]quinolizine-1,3(2H,4H)-dione, 4.3, -, 13,200, 5, 23. Results are also given for di-Me phthalate, di-Bu phthalate, dicyclohexyl phthalate, bis[p-(1,1,3,3-tetramethylbutyl)phenyl]phthalate, and di-Ph phthalate. Cf. CA 63: 11791g.

IT **16977-99-4**
RL: USES (Uses)
(as antiplasticizer for polycarbonates)
RN 16977-99-4 HCAPLUS
CN 1H-Benzo[c]quinolizine-1,3(2H)-dione, 4,4a-dihydro-8-methoxy-2,2,4,4-tetramethyl- (8CI, 9CI) (CA INDEX NAME)



L4 ANSWER 48 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

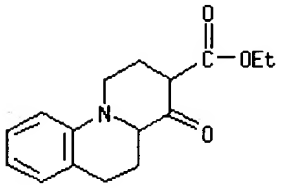
Full Text | Citing References

ACCESSION NUMBER: 1966:84768 HCAPLUS
DOCUMENT NUMBER: 64:84768
ORIGINAL REFERENCE NO.: 64:15941e-h,15942c
TITLE: Preparation and chemistry of 10α-estra-4-en-3-ones
AUTHOR(S): Farkas, Eugene; Owen, John M.; Debono, M.; Molloy, R. M.; Marsh, Max M.
CORPORATE SOURCE: Eli Lilly & Co., Indianapolis, IN
SOURCE: Tetrahedron Letters (1966), (10), 1023-7
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 64:84768

AB cf. CA 54, 21197b. The substituted estra-4,8(10)-dien-3-ones (I, R = H, Me) in alc. hydrogenated with one equiv. H on Pd-BaSO4 or Pd-Al2O3 gave small amts. of the appropriately substituted 5α,10α-estrane (II, R = H, Me) (III, IV) and 20-30% yield of the corresponding 4-en-3-ones (V, R = H, Me) (VI, VII). In general, higher yields (60-80%) of V were obtained by use of 2% Pd-SrCO3 in C6H6 though these alternative conditions were not applicable in some redns. owing to soly. differences. VI, m. 172-3°, λ 245 μ (ε 15,800), showed an optical rotatory dispersion (O.R.D.) curve almost identical with that of the corrected curve for 10α-testosterone. The π-π* portion of the curve indicating the chirality of the chromophore showed a neg. Cotton effect, best accommodated by assumption of half-chair and boat formations for the A and B rings and with cis diaxial 2α,10α protons. The upfield shift of the 18-Me protons at 42 cycles/sec. (cps.) as compared to 50 cps. in the N.M.R. spectrum of 19-nortestosterone (VIII) confirmed the boat conformation of the B ring. VI was readily isomerized to VIII by HCl in CHCl3 or with aq. KOBu. Further confirmation of the structure of VI was obtained by the catalytic hydrogenation of the remaining double bond to give the known III. VI was acetylated in Ac2O-C5H5N to the acetate, m. 143-4°, and oxidn. of VI in C5H5N gave high yields of 10α-estra-4-ene-3,17-dione, m. 162-4°. Metal-ammonia redn. of VI yielded 20% 5α,10α-estran-3-on-17β-ol, together with a 60% yield of the 5β,9α,10α-estrane (IX), m. 121-2°. IX exhibited on O.R.D. curve with neg. Cotton effect [φ] - 1022° (λ 314 mμ, in agreement with octant rule predictions. Hydrogenation of I (R = Me) gave VII, m. 193-5°, λ 243 μ (ε 16,400) together with IV as a by-product. The O.R.D. and N.M.R. spectra of VII showed the salient features of I (R = H). VI showed no androgenic activity but maintained a high pituitary agonadotrophin inhibitory activity. A weak uterotrophic response was also noted.

IT **4527-67-7**, 1H-Benzo[c]quinolizine-3-carboxylic acid,

2,3,4,4a,5,6-hexahydro-4-oxo-, ethyl ester, hydrochloride
(prepn. of)
RN 4527-67-7 HCAPLUS
CN 1H-Benzo[c]quinolizine-3-carboxylic acid, 2,3,4,4a,5,6-hexahydro-4-oxo-, ethyl ester, hydrochloride (7CI, 8CI) (CA INDEX NAME)



HCl

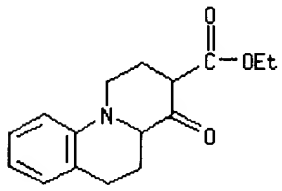
L4 ANSWER 49 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1966:84767 HCAPLUS
DOCUMENT NUMBER: 64:84767
ORIGINAL REFERENCE NO.: 64:15941e
TITLE: Azasteroids. III. Approaches to 9-azasteroids
AUTHOR(S): Schleigh, W. R.; Popp, F. D.
CORPORATE SOURCE: Clarkson Coll. of Technol., Potsdam, NY
SOURCE: Journal of the Chemical Society [Section] C: Organic (1966), (8), 760-2
CODEN: JSOOAX; ISSN: 0022-4952
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 64:84767

AB cf. CA 64, 5161d. Some unsuccessful approaches to 9-azasteroids are described. 3-Deoxy-18-nor-9,15,16-triaza-δ14(15))-estrone has been prepd.

IT **4527-67-7**, 1H-Benzo[c]quinolizine-3-carboxylic acid, 2,3,4,4a,5,6-hexahydro-4-oxo-, ethyl ester, hydrochloride
(prepn. of)
RN 4527-67-7 HCAPLUS
CN 1H-Benzo[c]quinolizine-3-carboxylic acid, 2,3,4,4a,5,6-hexahydro-4-oxo-, ethyl ester, hydrochloride (7CI, 8CI) (CA INDEX NAME)

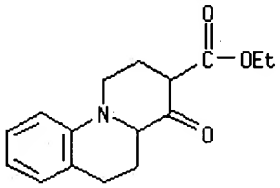


HCl

L4 ANSWER 50 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1966:84766 HCAPLUS
DOCUMENT NUMBER: 64:84766
ORIGINAL REFERENCE NO.: 64:15941d-e
TITLE: Viridin. V. Structure
AUTHOR(S): Grove, J. F.; McCloskey, P.; Moffatt, J. S.
CORPORATE SOURCE: Imp. Chem. Ind. Ltd., Welwyn, UK
SOURCE: Journal of the Chemical Society [Section] C: Organic (1966), (8), 743-7
CODEN: JSOOAX; ISSN: 0022-4952
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB cf. preceding abstr. The structure of viridin (I), C20H16O6, an antifungal metabolic product of Gliocladium virens, is elucidated.
IT **4527-67-7**, 1H-Benzo[c]quinolizine-3-carboxylic acid, 2,3,4,4a,5,6-hexahydro-4-oxo-, ethyl ester, hydrochloride
(prepn. of)
RN 4527-67-7 HCAPLUS
CN 1H-Benzo[c]quinolizine-3-carboxylic acid, 2,3,4,4a,5,6-hexahydro-4-oxo-, ethyl ester, hydrochloride (7CI, 8CI) (CA INDEX NAME)



HCl

L4 ANSWER 51 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
Full Text | Citing References

ACCESSION NUMBER: 1966:35773 HCAPLUS
DOCUMENT NUMBER: 64:35773
ORIGINAL REFERENCE NO.: 64:6613b-h,6614a-h,6615a-h,6616a-b
TITLE: Synthesis of 9-azasteroids. II. Synthesis of β-cyano- and β-carbethoxy-3-and 4-oxo-1,2,3,4,5,6-hexahydrobanzo[c]quinolizines
AUTHOR(S): Jones, G.; Wood, J.
CORPORATE SOURCE: Univ. Keele, UK
SOURCE: Tetrahedron (1965), 21(10), 2961-71
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 64:35773
GI For diagram(s), see printed CA Issue.
AB cf. CA 64, 2048c. The synthesis of 3- and 4-oxo-1,2,3,4,5,6-hexahydrobenzo[c]quinolizines with reactive ester or nitrile groups situated so as to allow addn. of a 4th ring (ring D of the final 9-azasteroid) was reported. The previously prepd. oxo ester (I, 12.4 g.) in 100 ml. dry PhMe treated portionwise with 1.3 g. NaH (50% paraffin mull) and the mixt. refluxed 1 hr. with stirring, the cooled soln. treated with 9.63 g. MeI in 25 ml. PhMe and the stirred soln. slowly heated in 1 hr. to boiling, refluxed 2 hrs. and the cooled mixt. dild. with 100 ml. dry Et2O, the filtered soln. evapd. and the brown oil (5.5 g.) sepd. on

Al2O3 gave the alkylation product (II), b0.0002 125-30°, and its stereoisomer, b0.0002 140-5°. Alternative routes to the non-enolizable oxo ester (III) were investigated. EtOCH2CH2OH (300 g.) and 350 g. PBr3 mixed slowly below 80° and stirred 1 hr. poured into 500 ml. ice-H2O and the washed and dried bromide distd. at 50 mm. gave 285 g. EtOCH2CH2Br. K (40.4 g.) in 800 ml. dry Me3COH stirred 30 min. at 50° with 150 g. MeCH(CO2Et)2 and the mixt. refluxed 2 hrs. with stirring with 178 g. EtOCH2CH2Br, the solvent evapd. and the residue treated at 0° with 400 ml. ice-H2O and Et2O yielded 161 g. EtOCH2CH2CMe(CO2Et)2 (IV), b10 130-2°. The ester (26 g.) in 200 ml. abs. alc. satd. with HBr and kept 16 hrs., refluxed 2 hrs. and evapd. in vacuo, the residual mixt. poured into 50 ml. ice-H2O and the aq. layer basified with NaHCO3, extd. with Et2O and the dried ext. distd. yielded 74% substantially pure BrCH2CH2CMe(CO2Et)2 (V), b11 138-40°. IV (102 g.) in 600 ml. 33% HBr boiled 6 hrs. with periodic distn. of EtBr, and removal of HBr in vacuo, HBr distd. in vacuo and the distillate neutralized, satd. with NaCl and extd. with Et2O, the extd. lactone and the carboxylactone distn. residue combined, heated 1 hr. at 200° and distd. yielded 73% 2-methyl-4-butyrolactone (VI),b11 81°. VI (32 g.) in 80 ml. abs. alc. satd. with HBr at 0° and the mixt. kept 24 hrs. at 20°, resatd. with HBr and kept 12 hrs. before pouring onto 120 g. ice, the ester layer and Et2O washings of the aq. layer combined and the washed and dried soln. distd. gave material, b1.0 45-50°, contaminated with 10% VI. Further washing with H2O and distn. gave pure BrCH2CH2CHMeCO2Et (VII), b1.0 47°. VII (49 g.), 24 g. Et 1,2,3,4-tetrahydroquinaldinate, 32.3 g. anhyd. K2CO3, and 1 g. KI heated 6 hrs. at 160-70° with vigorous stirring and the cooled mixt. treated with cold H2O and CHCl3, the CHCl3 layer dried and distd. at 10 mm. to give 12.1 g. VI and the pressure reduced gave 8.9 g. fraction, b0.18 104-40°. Further distn. at 0.0006 mm. yielded 61% material, b0.0006 140-60°, redistd. to give pure Et N-(3-ethoxycarbonylbutyl)-1,2,3,4-tetrahydroquinaldinate (VIII), b0.0006 154-6°. VIII (11.5 g.), 21.5 g. V, and 10.6 g. anhyd. K2CO3 heated 7 hrs. at 160° with stirring and the product fractionally distd. gave mainly VIII, 2-ethoxycarbonyl-2-methyl-4-butyrolactone, and 8% required Et N-[3,3-bis(ethoxycarbonyl)butyl]-1,2,3,4-tetrahydroquinaldinate, b0.0006 150°. VIII (8.65 g.) in 60 ml. dry xylene added in 30 min. to KOBu-tert (from 1.09 g. K) in 50 ml. refluxing xylene with distn. of evolved BuOH, the cooled mixt. dild. with 300 ml. dry Et2O and the hygroscopic K salt (6.0 g.) converted to the unstable base gave the acyloin (IX), HCl salt, m. 96-7°. Since the major difficulty in alkylating the cyclic ester I appeared to be competitive N-alkylation the basicity of the N was deactivated by nitration in the para-position using N2O4 in CCl4 according to Schaarschmidt et al. (CA 19, 2036). Et N-(3-ethoxycarbonylpropyl)-1,2,3,4-tetrahydroquinaldinate (X, R = H, 5.0 g.) in 50 ml. dry CCl4 at -5° stirred vigorously with 1.6 g. powd. CaCO3 with addn. of 1.45 g. N2O4 in 20 ml. CCl4 and the mixt. stirred 3 hrs. at -5°, warmed slowly and filtered at 20°, washed with 100 ml. cold 3N HCl, satd. aq. NaHCO3, and H2O and the dried soln. evapd. yielded 83% brown oil. A sample distd. in a bulb tube gave X (R = NO2) (XI), b0.001 200-10°. I (4.77 g.) in 100 ml. CCl4 at -5° stirred 30 min. with addn. of 1.69 g. N2O4 in 40 ml. ice-cold CCl4 and the mixt. stirred 3 hrs., the soln. decanted at 20° and the decantation and CCl4 washings evapd. yielded 24% solid. Recrystn. of a sample gave the nitro oxoester (XII, R = H) (XIII), m. 126-9°. XIII (1.35 g.) in 30 ml. PhMe added slowly to 50 ml. refluxing PhMe contg. of KOBu-tert (from 0.18 K) and the mixt. refluxed 30 min., the cooled mixt. treated with 1.2 g. MeI in 20 ml. PhMe and the mixt. slowly heated and refluxed 3 hrs., cooled and the filtered soln. evapd. gave an unstable gum, corresponding to the expected methylated compd. XII (R = Me). XI (0.66

g.) in 100 ml. alc. hydrogenated over 0.1 g. prereduced PtO2 with adsorption of 3 molar equivs. H gave 0.61 g. brown oil, distd. to give the amino diester X (R = NH2), b0.0003 185-95°. The previously synthesized cyano ester (XIV, 8.16 g.) in 75 ml. xylene added in 1 hr. with stirring to 2.25 g. NaOEt in 75 ml. boiling xylene with slow distn., the stirred mixt. refluxed 1 hr. and distd. to vapor temp. 138°, the ice-cold suspension dild. with 100 ml. each of Et2O and H2O and the org. layer extd. with 100 ml. N aq. NaOH, the combined aq. layers adjusted with 5N HCl at 0° to pH 6 and extd. with CHCl3, the residue on evapn. (6.41 g. brown gum) purified by regeneration from the HCl salt and a sample distd. gave 3-cyano-4-oxo-1,2,3,4,5,6-hexahydrobenzo[c]quinolizine, b0.003 180°; HCl salt, m. 163° (decompn.). Nitration of the cyano ketone gave an extremely insol. brown solid which has not been characterized. The major difficulty in synthesis of 4-oxo-1,2,3,4,5,6-hexahydrobenzo[c]quinolizine derivs. appeared to be inherent instability of systems which are formally analogous to 3-oxo-N-phenylpiperidine and synthesis of the probably more stable 3-oxo derivs. was undertaken. Attempts to synthesize the potentially useful intermediate tricyclic oxo ester (XV, R = H) (XVI) were undertaken. The initial approach was that of cyclization of the diester, Et 1-(2-ethoxycarbonylethyl)-1,2,3,4-tetrahydro-2-quinolyl acetate (XVII). Abs. alc. (300 ml.) and 4 ml. H2O contg. 29.4 g. 2-quinolylacetonitrile (from 2-chloromethylquinoline HCl salt) satd. with HCl at 60° and boiled 3 hrs., the chilled mixt. filtered and the residue on evapn. in vacuo treated with ice-cold satd. aq. NaHCO3, extd. with Et2O and the product distd. yielded 76% Et 2-quinolylacetate, b0.5 136-7°. The acetate (36.65 g.) in 250 ml. AcOH hydrogenated over prereduced PtO2 with 2 moles H and the residue on evapn. treated with aq. NaHCO3 and Et2O, the Et2O layer dried and distd. yielded 92% Et 1,2,3,4-tetrahydro-2-quinolylacetate (XVIII), b0.6 130-8°; 1-benzoyl deriv., m. 96.5-7.0° (ligroine). XVIII (10 g.), 16.42 g. BrCH2CH2CO2Et (b2.5 44°), 9.5 g. finely ground K2CO3, and 0.38 g. KI heated 4 hrs. at 140° under a short air condenser and the cooled mixt. treated with H2O and Et2O, the Et2O layer and washings dried and evapd., the residual oil distd. at 12 mm. to give 4 g. BrCH2-CH2CO2Et and at 0.003 mm. gave 1.7 g. XVIII and 63% yield of XVII, b0.003 145-60°, redistd. to give a sample, b0.003 161°. XVII (12.0 g.) cyclized with EtONa (from 0.95 g. Na in 200 ml. xylene) and the chilled (0°) mixt. treated with 100 ml. H2O, the aq. layer adjusted to pH 6.5 and dild. with Et2O, the org. layer and subsequent Et2O exts. combined and evapd. gave 93% viscous orange oil, purified by regeneration from the HCl salt to give the alternative quinazoline (XIX, R = H) (XX); HCl salt, m. 130° (Me2CO-Et2O-HCl). The cyclized Na salt suspension from 6.0 g. XVII treated at 0° with 3.06 g. MeI in 25 ml. xylene, stirred 1 hr. at 20 and 8 hrs. at 60°, the cooled mixt. filtered and the filtrate and Et2O washings evapd., the light-brown oily mixt. (3.86 g.) chromatographed on neutral Al2O3 from ligroine-C6H6 gave XV (R = Me) (XXI), b0.0004 130-4°, and the major isomer (XIX, R = Me) (XXII), b4 150-5°. The light brown oil (2 g., prepd. as above) boiled 6 hrs. in 5N HCl and evapd., the residue treated with aq. NaHCO3 and the free base extd. with Et2O yielded 73% 2-methyl-3-oxo-1,2,3,4,-5,6-hexahydrobenzo[c]quinolizine (XXIII), b0.003 130-40°. After equilibration with alc. EtONa the redistd. XXIII showed only the doublet at 0.99 ppm. Further confirmation that XXIII was a mixt. of epimers and not of structural isomers was obtained by hydrolyzing and decarboxylating 0.223 g. of the pure major isomer XXII to give 88% XXIII, practically identical with that obtained from the mixt. of oxo esters XXII. The equilibrated ketone XXIII heated 15 min. at 100° with a molar equiv. of 2,4-(O2N)2C6H3NHNH2 in abs. alc./HBr and the cooled mixt. filtered, the salt taken up in CHCl3 and shaken vigorously with aq. Na2CO3

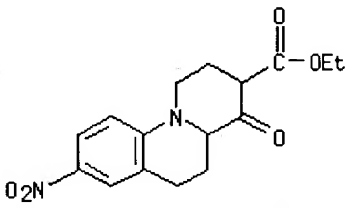
and H2O, dried and evapd. gave XXIII dinitrophenylhydrazone, m. 195-8°. To identify the ketone and hence to deduce the direction of the Dieckmann cyclization in the di-ester XVII, attempts were made to synthesize XXIII or its isomer 4-methyl-3-oxo-1,2,3,4,5,6-hexahydrobenzo[c]quinolizine (XXIV), but attempts to alkylate XVIII with Me2CBrCO2Et were unsuccessful in the production of XXIII. Quinaldyllithium (from 252 g. quinaldine) in Et2O added to 268 g. MeI under gentle reflux and the mixt. refluxed 1 hr., kept 16 hrs. at 20° and treated with 1300 ml. 5N HCl, the acid layer sepd. and the Et2O layer extd. with acid, the combined acid layers basified with NH4OH (d. 0.880) and the bases extd. with Et2O gave 47 g. quinaldine and 57% yield of 2-ethylquinoline, b14 134-5°. A filtered soln. of PhLi (from 90 g. PhBr) added slowly with stirring to 75 g. 2-ethylquinoline in 100 ml. Et2O and the mixt. refluxed 1 hr., the filtered 2-ethylquinolyllithium added in 1 hr. with stirring to 34 g. Et2CO3 in 100 ml. Et2O and the mixt. boiled 3 hrs., the cooled soln. treated with 500 ml. ice-cold 5N HCl, the acid layer and acid exts. neutralized with NH4OH and extd. with Et2O, evapd. and the residue distd. gave 29 g. 2-ethylquinoline b0.05 60-85°, and 15% yield of Et 2-(2-quinolyl)propionate (XXV), b0.05 116°; picrate, m. 137-40° (alc.). XXV (15.8 g.) in 150 ml. AcOH hydrogenated over 0.3 g. prereduced PtO2 with 2 moles H, the filtered soln. evapd. and the residue shaken with aq. NaHCO3 and Et2O, the Et2O ext. dried and distd. gave 85% tetrahydro ester (XXVI) (R = H, R' = CHMeCO2Et) (XXVII), b0.7 134-8°. XXVII (13.9 g.), 21.5 g. BrCH2CH2CO2Et, 12.4 g. K2CO3, and 0.5 g. KI vigorously stirred 6 hrs. at 150° and the cooled product worked up as for XVII gave mainly 8.18 g. XXVII, b0.002 90-120°, and a 73% yield of the diester XXVI (R = CH2CH2CO2Et, R' = CHMeCO2Et) (XXVIII), b0.002 148-54°. XXVIII (6.48 g.) in 50 ml. xylene added slowly to KOCMe3 (from 0.836 g. K) in 75 ml. boiling xylene with slow distn. continued 1 hr., the cooled mixt. treated with 100 ml. ice-H2O and acidified to pH 6, extd. with Et2O and the residue on evapn. gave 2-ethoxycarbonyl-4-methyl-3-oxo-1,2,3,4,5,6-hexahydrobenzo[c]quinolizine (XXIX); HCl salt, melting to a thick glass at 50-5°, mobile at 85-90°. XXIX (2.5 g.) boiled 5 hrs. in 50 ml. 5N HCl and the residue on evapn. at 14 mm. treated with satd. aq. NaHCO3 and Et2O, the Et2O ext. dried and distd. gave a ketone, recrystn. from ligroine gave colorless rods, m. 96-7°; 2,4-dinitrophenylhydrazone, m. 153-5°. XXIII and XXIV differed markedly in ir absorption between 1450 and 700 cm.-1 and had retention times of 16.0 and 14.8 min. at 150°. Accordingly the C-methylation decarboxylation product was XXIII, the methylated keto ester XXII and the Dieckmann cyclization of XVII gave the oxo ester XX, unsuitable for further use in a 9-azasteroid synthesis. In view of the high yield obtained in cyclization of the cyano ester XIV it was decided finally to prep. and cyclize the isomeric cyano ester XXVI (R = CH2CH2CO2Et, R' = CH2CN) (XXX). XVIII (18 g.) in 500 ml. dry MeOH satd. with NH3 at 0° and autoclaved 40 hrs. at 100°, the soln. evapd. and the gum triturated with ligroine yielded 85% XXVI (R = H R' = CH2CONH2) (XXXI), m. 98-103°, recrystd. from C5H6 to give a sample m. 103-4°; N-Bz deriv., m. 198-201° (alc.). XXXI (12.5 g.) and 5.93 g. NaCl in 60 ml. ClCH2CH2Cl stirred 15 min. with addn. of 8.93 g. POCl3 in 10 ml. ClCH2CH2Cl, the mixt. warmed and boiled with stirring 12 hrs., the cooled mixt. treated with 8.0 g. NaOH in MeOH and shaken out twice with cold brine, the org. layer dried and distd. yielded 72% XXVI (R = H, R' = CH2CN) (XXXII), b0.06 124-7°; N-Bz deriv., m. 130° (alc.). XXXII (5.0 g.), 10.47 g. BrCH2CH2CO2Et, 6.02 g. K2CO3, and 0.24 g. KI heated 6 hrs. at 140° with stirring, the crude product isolated as for XVII and heated 8 hrs. at 145° with 10.5 g. BrCH2CH2CO2Et and 6 g. K2CO3, worked up again as for XVII to give 1.6 g. XXXII, b0.0006 110-35°

and 80% yield of XXX, b0.0006 156-62°, m. 66° (ligroine). XXX (2.96 g.) in 50 ml. xylene added in 1 hr. with stirring to EtONa (from 0.275 g. Na) in 60 ml. boiling xylene and the boiling mixt. stirred 1 hr., worked up as for the cyano ketone from XIV to give 82% light yellow solid, m. 132-8°, recrystd. from alc. to colorless rhombs of the cyano ketone (XXXIII), m. 135.0-7.5°; HCl salt, m. 133-41° (Me2CO); phenylhydrazone, m. 166-7° (alc.). Since the yields are good throughout the synthesis the intermediate required for elaboration of ring D is available in quantity.

IT **5100-53-8**, 1H-Benzo[c]quinolizine-3-carboxylic acid, 2,3,4,4a,5,6-hexahydro-8-nitro-4-oxo-, ethyl ester (prepn. of)

RN 5100-53-8 HCAPLUS

CN 1H-Benzo[c]quinolizine-3-carboxylic acid, 2,3,4,4a,5,6-hexahydro-8-nitro-4-oxo-, ethyl ester (7CI, 8CI) (CA INDEX NAME)



L4 ANSWER 52 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

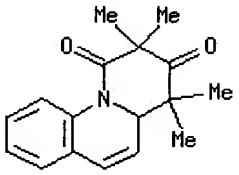
Full Text | Citing References

ACCESSION NUMBER: 1966:11483 HCAPLUS
DOCUMENT NUMBER: 64:11483
ORIGINAL REFERENCE NO.: 64:2083h,2084a-c
TITLE: Adducts of dimethylketene with C:N-containing compounds
AUTHOR(S): Martin, James C.; Hoyle, V. A., Jr.; Brannock, Kent C.
CORPORATE SOURCE: Tennessee Eastman, Kingsport
SOURCE: Tetrahedron Letters (1965), (40), 3589-94
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 64:11483

GI For diagram(s), see printed CA Issue.

AB Me2C:CO and PhCH:NEt in C6H6 or MeCN gave 95 and 83% yields oxazinone (I), m. 101.5-4.0°, converted by treatment with a catalytic amt. NaOMe to give 92% piperidinedione (II), m. 89.5-91.0°. Treatment of I with excess alc. 1 hr. at 25° gave a quant. conversion to Me2CHCONEtCHPhCMe2CO2Et, b0.4 128-30°, m. 44-5°. On reflux with aq. 10% Na2CO3 30 min., acidification, and recrystn. I yielded 82% Me2CHCONEtCHPhCMe2CO2H, m. 120-1°. II was stable to refluxing alc. and aq. Na2CO3. I treated with NaBH4 in Me3COH gave 22% the isomeric piperidinones (III), m. 188-98°. Redn. of I with LiAlH4 gave 73% the isomeric piperidinols (IV), b0.5 115°, m. 81-6°. These hydride redns. are examples of rearrangement-redns. In each redn. the basicity of the reducing agent brings about the same rearrangement of I as observed with NaOMe. Treatment of III with K2Cr2O7-H2SO4 yielded 95% II. Quinoline and Me2C:CO in MeCN yielded 92% oxazinoquinolinone (V), b0.1 143°, m. 82.0-3.5°. Treatment of V with a catalytic amt. NaOMe brought about rearrangement to give 76% quinolizinedione (VI), m. 84-6°. It would appear that many compds. prepd. by reaction of ketenes with C:N compds. have been assigned piperidinedione structures

erroneously.
IT 6082-64-0, 1H-Benzo[c]quinolizine-1,3(2H)-dione, 4,4a-dihydro-2,2,4,4-tetramethyl-
(prepn. of)
RN 6082-64-0 HCAPLUS
CN 1H-Benzo[c]quinolizine-1,3(2H)-dione, 4,4a-dihydro-2,2,4,4-tetramethyl- (7CI, 8CI) (CA INDEX NAME)



L4 ANSWER 53 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1966:11383 HCAPLUS
DOCUMENT NUMBER: 64:11383
ORIGINAL REFERENCE NO.: 64:2048c-h,2049a-f
TITLE: Synthesis of 9-azasteroids. I. Attempted synthesis of 4-oxobenzo[c]quinolizidines
AUTHOR(S): Jones, G.; Wood, J.
CORPORATE SOURCE: Univ. Keele, UK
SOURCE: Tetrahedron (1965), 21(9), 2529-37
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 64:11383
GI For diagram(s), see printed CA Issue.
AB cf. CA 53, 18037h. The synthesis of 4-oxobenzo[c]quinolizidines was undertaken as possible precursors of 9-azasteroids. The previous prepn. of the quinolizinium bromide (I, R = H, X = Br) (II) from 2-(γ-ethoxybutyryl)quinoline (III) was improved. III (5.1 g.) in 50 ml. 50% HBr refluxed 1 hr. and the concd. mixt. poured into ice-H2O, extd. with CHCl3, and the γ-bromobutyrylquinoline (5.4 g.) heated 30 min. at 90-5° (oil bath), the powd. solid product triturated with CHCl3 and isolated gave 89% yield of almost pure II, m. 187-9°. BrMgCHMeCH2CH2OEt (from 23.5 g. BrCHMeCH2CH2OEt) in 250 ml. Et2O added at a rate to maintain gentle refluxing to 16 g. 2-cyanoquinoline, the mixt. refluxed 18 hrs., the cooled mixt. treated with 150 ml. ice-cold 5N HCl, the acid neutralized with NH4OH and extd. with Et2O, the combined Et2O layers dried and distd. at 0.03 mm., and the fraction, b0.03 120-40°, redistd. gave 2-(4-ethoxy-2-methylbutyryl)quinoline (IV), b0.03 136-8°. IV (5.4 g.) in 50 ml. 50% HBr refluxed 0.5 hr., the concd. soln. (8 ml.) poured into ice-H2O and extd. with CHCl3, the oily product heated 30 min. at 95°, and the semi-solid material triturated with Me2CO gave 3.07 g. greenish solid, extd. with CHCl3 by trituration and filtered to give I (R = Me, X = Br) (V), m. 143-8°; picrate m. 174°. V recrystd. from alc. Me2CO gave the enol bromide (VI), m. 165-170° [resolidifying and m. 268-70° (decompn.)] enol picrate m. 165-6° (decompn.). II (1 g.) in 100 ml. alc. hydrogenated over 0.5 g. 10% Pd-C gave 4-hydroxy-1,2,3,4-tetrahydrobenzo[c]quinolizinium bromide, m. 182° (alc.-EtOAc); picrate m. 108-9° (alc.). II (5.7 g.) in 150 ml. alc. hydrogenated 20 hrs. over 0.2 g. prereduced PtO2 with adsorption of 3 molar equivs. H

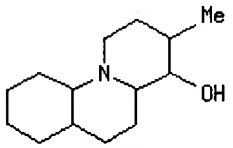
gave the benzoquinolizidine alc. HBr salt, m. 192° (abs. alc.). The crude salt basified with aq. Na2CO3 and extd. with CHCl3 yielded 69% yellow oil, b0.13 130-5°, showing 2 corresponding peaks on gas chromatographic analysis, and sepd. by chromatography from 1:1 ligroine-C6H6 on neutral Al2O3 (Woelm, activity IV) to give a small amt. benzo[c]quinolizidine, and a major fraction contg. an epimeric alc., C13H17NO, b0.02 140-50°, m. 79-80°. Complete hydrogenation of II over PtO2 with absorption of 6 molar equivs. and treatment of the gummy product with aq. Na2CO3, extn. with CHCl3, and distn. gave the perhydroquinolizidine (VII, R = H), b0.03 115-20°. The mixt. of alcs. obtained by partial redn. of II was used for oxidn. expts. with MnO2, (CH2CO)2NBr, and CrO3 without success. Redn. of the Me ketone V or the enol VI gave 3-methyl-4-hydroxybenzo[c]quinolizidine HBr salt, m. 218-19°. The crude product basified with aq. Na2CO3 and extd. with CHCl3 gave VIII (R = Me), b0.005 110-15°, m. 63-70°. Mixed V and VI (1.09 g.) hydrogenated completely gave VII (R = Me) HBr salt, m. 221-3° (abs. alc.-Me2CO); free base b0.005 89-95°. Attempts to oxidize the alcs. VIII by a modified Oppenauer procedure using fluorenone as H acceptor (Warnhoff and Reynolds-Warnhoff, CA 59, 1707a) gave a poor yield of products with C:O absorption at 1710 cm.-1, but no pure ketone was isolated. Attempts were made to avoid the oxidn. stage by selective redn. of the quinolizinium system in II while protecting the carbonyl function. Cryst. NaOAc (2.1 g.) and 1 g. HO-NH2.HCl in 110 ml. alc. filtered, the soln. treated with II, and the mixt. boiled 2 hrs. and poured through bromide-loaded Amberlite IRA-400 gave the oxime bromide (IX, R = NOH, X = Br), m. 308° (decompn.); picrate m. 265° (decompn.). Similar procedures gave IX (R = NNHCONH2), X = Br), m. 245-6°. Attempts at redn. gave no identifiable products. An attempt to reduce II with HCO2H and NEt3 gave only benzo[c]-quinolizidine, b0.01 95-100°; picrate m. 160-2° (decompn.). Further attempts to prep. tricyclic intermediates were centered on oxo esters and nitriles with initial expts. on synthesis of the oxo ester (X, R = Et) (XI). Esterification of quinaldic acid using a large excess of H2SO4 gave Et quinaldinate (XII), m. 43-5°, b0.03 127-9°, also prepd. in 82% yields by refluxing 2-cyanoquinoline 4 hrs. in alc. satd. with HCl, treating the residue on evapn. with cold aq. Na2CO3, extg. with CHCl3, and distg. the dried ext. XII (127 g.) in 1 l. alc. hydrogenated 30 hrs. over 3 g. prereduced PtO2 with absorption of 2 molar equivs. H gave 126 g. Et 1,2,3,4-tetrahydroquinaldinate (XIII), b0.05 120°; N-benzoyl deriv. m. 85.0-5.5°. Alc. HBr and γ-butyrolactone refluxed 5 hrs. and the product distd. at 47-8°/0.5 mm. yielded 58% Br(CH2)3CO2Et. The corresponding Cl(CH2)3-CO2Et, b12 76-7°, was similarly prepd. XIII (10 g.), 11 g. Br(CH2)3CO2Et, and 8 g. anhyd. K2CO3 stirred 10 hrs. at 160-70° and the cooled mixt. shaken with cold H2O and CHCl3, the dried CHCl3 evapd., and the residual oil distd. gave 9.3 g. cyano ester (XIV, R = CN) (XV), b0.001 162-4°. XIII (30 g.), 42.8 g. Br(CH2)3CO2Et, 30 g. anhyd. K2CO3, and 1.2 g. KI stirred (N atm.) 6 hrs. at 160-70° with loss of H2O, the dild. mixt. extd. with CHCl3 and the residue on evapn. distd. at 10 mm. and again at 0.001 mm. yielded 34.3 g. fraction, b0.001 140-62° (mostly at 157-60°), redistd. to give pure XIV (R = CO2Et) (XVI), b0.001 158-60°. XV (7.4 g.) in 100 ml. alc. satd. with dry HCl refluxed 6 hrs. and the filtered soln. evapd. in vacuo, the residue basified with cold satd. aq. NaHCO3 and extd. with CHCl3 gave 6.5 g. XVI. Dry xylene (50 ml.) and 4 ml. abs. alc. refluxed with portionwise addn. of 0.7 g. Na and the soln. evapd. until the vapor temp. reached 135°, the soln. slowly distd. with gradual addn. of 9.58 g. XVI in 75 ml. xylene in 30 min., the mixt. slowly distd. 1 hr., the cooled soln. dild. with 200 ml. Et2O and bubbled through with dry HCl at 0°, the Et2O-washed ppt. stirred into excess of ice-cold aq. Na2CO3, the pH adjusted to 6-7, the mixt. extd. with Et2O and the ext.

evapd. gave 6.95 g. pure XI, m. 45-50°; HCl salt m. 117-19°; MeI salt m. 136-7°. Distn. of XI even under very low pressures led to extensive decompn. XI (0.5 g.) and 0.117 g. 100% $N_2H_4.H_2O$ in 10 ml. alc. refluxed 30 min. gave 81% yield of the pyrazolone (XVII, R = H), m. 214-16° (alc.). XI (0.54 g.) and 0.223 g. $PhNHNH_2$ heated 30 min. at 100-10° (N atm.) and the brown residue triturated with Et-OAc yielded 93% XVII (R = Ph), m. 183-5° (Me_2CO). Attempts to decarboxylate XVI were unsuccessful but hydrogenation of the acid hydrolysis products gave a mixt. of alcs. similar to those obtained by redn. of II, indicating possible formation of the ketone in a form too unstable for further synthetic use.

IT **4491-30-9**, 1H-Benzo[c]quinolizin-4-ol, dodecahydro-3-methyl-
(hydrobromide spectrum of)

RN 4491-30-9 HCAPLUS

CN 1H-Benzo[c]quinolizin-4-ol, dodecahydro-3-methyl- (7CI, 8CI) (CA INDEX NAME)



L4 ANSWER 54 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1963:435553 HCAPLUS
DOCUMENT NUMBER: 59:35553
ORIGINAL REFERENCE NO.: 59:6371e-h
TITLE: Ketene and its derivatives. III. Reaction of diketene with quinoline
AUTHOR(S): Kato, Tetsuzo; Kitagawa, Tsunehiro; Yamamato, Yutaka
CORPORATE SOURCE: Tohoku Univ., Sendai, Japan
SOURCE: Yakugaku Zasshi (1963), 83, 267-71
CODEN: YKKZAJ; ISSN: 0031-6903
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

GI For diagram(s), see printed CA Issue.

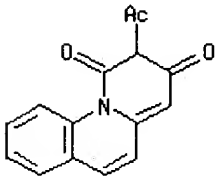
AB cf. CA 59, 2765d. C_9H_7N (2g.) in 3 ml. C_6H_6 and 5 ml. diketene (I) refluxed 4 hrs. and the product filtered off gave 2.8 g. $C_{17}H_{13}O_3N$ (II), m. 237-8.degree. (decompn.) (MeOH); 0.062 mole C_7H_7N in 10 ml. C_6H_6 treated with 0.35 mole ketene, refluxed 3 hrs., kept overnight at 0.degree., and the product filtered off gave 1.8 g. II, m. 235.degree.(decompn.). II(1.8g.)in 50 ml. BuOH and 0.1 g. 30% Pd-C refluxed 6 hrs., the soln. filtered while hot, and the filtrate concd. to 30 ml. gave 0.75 g. dehydro compd. (III), $C_{17}H_{11}O_3N$, prisms, m. 263-4.degree. (decompn.) (MeOH), the filtrate concd. to 5 ml. and the product filtered off gave 0.36 g. dihydro compd. (IV), $C_{17}H_{15}O_3N$, needles, m. 216-17.degree. (decompn.). III (250 mg.), 30 ml. MeOH, and 10 ml. liquid NH_3 in a sealed tube heated 30 hrs. at 50-60.degree. and the product filtered off gave 80 mg. $C_{14}H_{10}O_3N_2$ (V), m. 293.degree. (decompn.) ($CHCl_3$), and the mother liquor gave 90 mg. $C_{17}H_{12}O_2N_2.H_2O$, needles, m. 197-8.degree. (decompn.). III (0.45 g.) in 10 ml. MeOH and 10 ml. 3% NaOH heated 5 min. at 100.degree., refluxed 30 min., the MeOH removed, the residue neturalized with HCl, and the product extd. with C_6H_6 gave 100 mg. $C_{17}H_{13}O_4N$ (VI), needles, m. 159-60.degree. (Me_2CO-H_2O). VI (50 mg.) in 3 ml. concd. HCl heated 15 min. at 100.degree., 10 ml. H_2O added, and the product extd. with $CHCl_3$ gave III, m. 264.degree. (decompn.). III (0.37 g.) in 5 ml. MeOH and 15 ml. 3% NaOH refluxed 1 hr. and the product filtered off gave $C_{15}H_{11}O_3N.0.5H_2O$, m. 210-11.degree.. Similarly, C_5H_5N

and I or ketene gave C13H11O3N. The above results indicated that the structure of II is VII or VIII.

IT **95516-57-7**, 1H-Benzo[c]quinolizine-1,3(2H)-dione, 2-acetyl-
(prepn. of)

RN 95516-57-7 HCAPLUS

CN 1H-Benzo[c]quinolizine-1,3(2H)-dione, 2-acetyl- (7CI) (CA INDEX NAME)



L4 ANSWER 55 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1963:421707 HCAPLUS
DOCUMENT NUMBER: 59:21707
ORIGINAL REFERENCE NO.: 59:3899g-h,3900a-d
TITLE: Dehydroquinolizinium compounds
PATENT ASSIGNEE(S): Dr. A. Wander A.-G.
SOURCE: 12 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 916507		19630123	GB	
PRIORITY APPLN. INFO.:			DE	19590611

GI For diagram(s), see printed CA Issue.

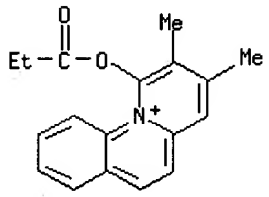
AB The title compds. (I) are prepd. by condensing (preferably in an inert solvent at 0-80° with an initiator) a compd. having 2 adjacent oxo groups with an N-(CH2X)-substituted α-picolinium compd. (II) or a di- or tetrahydro deriv. of II. X is a group which activates the adjacent methylene group. In an example, 33.4 g. bromoacetic acid Et ester and 18.6 g. α-picoline are kept in 50 mL. Me2CO 12 h. at room temp. The pptd. product is sepd. and washed (Et2O) to yield 42 g. N-carbethoxymethyl-α-picolinium bromide (III), m. 128° (EtOH-Et2O). Bu2NH (1.29 g.) is added to a soln. of 2.5 g. III and 0.9 g. diacetyl in 20 mL. EtOH. The mixt. is refluxed 40 min., then evapd. to dryness in vacuo and the residue extd. (Et2O-Me2CO) to yield 1.86 g. of the monohydrate of 2,3-dimethyldehydroquinolizinium bromide (IIIa), m. 233° (EtOH-Et2O). IIIa.H2O is also obtained if III is replaced by N-phenacyl- or N-acetonyl-α-picolinium bromide. Also prepd. were the following substituted dehydro-quinolizinium bromide-xH2O compds. [substituent(s), x, m.p. given]: 2,3-di-Ph, -, 282°; 2,3-dianisyl,-, 266°; 2,3-di-α-furyl, -, 294°; 2,3-di-α-pyridyl, -, 293°; [2,3: 9',10'] phenanthro, -, 332°; 1-methyl-2,3-di-α-furyl, -, 295°; 2,3-di-α-furyl-6-Me, -, 294°; 2,3-di-α-furyl-8-Me, -, 321°, 2,3-di-α-furyl-7-Et, -, 210°; 2,3-dimethyl-8,9-benzo, -, 210°; 2,3-dimethyl-8,9-dimethoxybenzo, -, 292°; 2,3-dimethyl8,9-methylenedioxybenzo, 2, 302°; 2,3-dimethyl-4-carbethoxy6,7-benzo, 1, 170°; 1,9-trimethylene-2,3-dimethyl, 1, 285°; 2,3-dimethyl-4-benzoyl-6,7-dihydro-8,9-benzo,

2.5, 288°; 2,3dimethyl-4-benzoyl-6,7-dihydro-8,9-dimethoxybenzo, -, 233°; 2,3-dimethyl-4-carbethoxy-6,7-dihydro-8,9-dimethoxybenzo, -, 252°; 2,3-dimethyl-4-cyano, 1, 350°. Also prepd. were IV (R, R1, R2, m.p. given): H, Me, Me, 329-30°; H, Ph, Ph, 294°; H, furyl, furyl, 244-5°; H, pyridyl, pyridyl, 310°; H, Ph, H, 292-3°; H, Me, Ph, 296°; Me, Me, Me, 247-8°; Me, Ph, Ph, 274-5°; Me, pyridyl, pyridyl, 214°; Me, furyl, furyl, 265°. Also prepd. were V(R1, R2, m.p. given): Me, Me, 325°; furyl, furyl, 275°; (R1,R2 =) diphenylene, 271)°. Also prepd. were VI (R, R1, R2, R3, m.p. given): H, Me, Me, Me, 214°; H, Ph, Ph, Me, 275°; H, furyl, furyl, Me, 293-4°; H, pyridyl, pyridyl, Me, 274°; H, (R1R2 =) diphenylene, Me, 310°; H, Ph, Me, Me, 242°; Me, Ph, Ph, Me, 240°; Me, pyridyl, pyridyl, Me, 345°; H, Me, Me, H, 233°; H, furyl, furyl, H, 292°; H, pyridyl, pyridyl, H, 291°. Also prepd. were VII (R1, R2, R3, m.p. given): Ph, Ph, CONHPh, 265°; Me, Me, Ph, 268°; furyl, furyl, CH:CHPh, 249°.

IT **98691-37-3**, Benzo[c]quinolizinium, 1-hydroxy-2,3-dimethyl-, bromide, propionate
(prepn. of)

RN 98691-37-3 HCAPLUS

CN 1-Hydroxy-2,3-dimethylbenzo[c]quinolizinium bromide, propionate (7CI) (CA INDEX NAME)



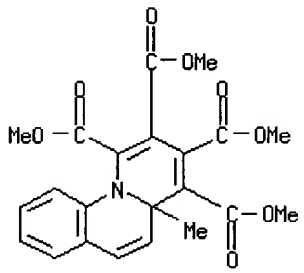
Br^-

L4 ANSWER 56 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1963:3230 HCAPLUS
DOCUMENT NUMBER: 58:3230
ORIGINAL REFERENCE NO.: 58:504f
TITLE: The reaction of dimethyl acetylenedicarboxylate with quinaldine
AUTHOR(S): Crabtree, A.; Jackman, L. M.; Johnson, A. W.
CORPORATE SOURCE: Univ. Nottingham, UK
SOURCE: Journal of the Chemical Society, Abstracts (1962) 4417-20
CODEN: JCSAAZ; ISSN: 0590-9791
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
GI For diagram(s), see printed CA Issue.
AB The main product from the reaction of dimethyl acetylenedicarboxylate and quinaldine is formulated as a tricyclic ylide (I) comprising a quinolinium ring with a fused seven-membered cyclic carbanion. The reactions and structure of the tetrabromo addn. product of I are discussed. The other product from the initial quinaldine reaction contains an angular methyl group and is a neutral quinolizine (II) which shows no tendency to

rearrange.
IT **17260-83-2**, 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, 4a-methyl-, tetramethyl ester
(prepn. of)
RN 17260-83-2 HCAPLUS
CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, 4a-methyl-, tetramethyl ester (7CI, 8CI) (CA INDEX NAME)



L4 ANSWER 57 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

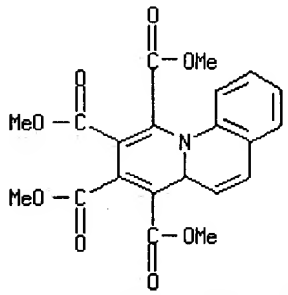
ACCESSION NUMBER: 1962:403936 HCAPLUS
DOCUMENT NUMBER: 57:3936
ORIGINAL REFERENCE NO.: 57:779a-g
TITLE: Addition reactions of heterocyclic compounds. IX. Benzoquinolizines from isoquinoline and dimethyl acetylenedicarboxylate
AUTHOR(S): Acheson, R. M.; Hole, F.
CORPORATE SOURCE: Univ. Oxford, UK
SOURCE: Journal of the Chemical Society, Abstracts (1962) 748-52
CODEN: JCSAAZ; ISSN: 0590-9791
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. CA 55, 11391g; Diels and Harms, CA 30, 82234. From freshly distd. isoquinoline (I) and MeO2CC:CCO2Me (II) was prepd. as described by D. and H. 77% D. and H's. "1st labile I adduct" (ascribed a different structure by D. and H.), m. 167°; this was now formulated as tetra-Me 11bH-benzo[a] quinolizine1,2,3,4-tetracarboxylate (III). When I was not freshly distd., only about 5% tri-Me benzo[g]indolizine-1,2,3-tricarboxylate (IV) was obtained. I (1 g.) in 5 ml. MeOH mixed with 2 ml. II in 3 ml. MeOH at room temp., kept 2 days, the ppt. collected, and chromatographed on Al2O3 gave IV, m. 154-5° (MeOH). I (8 ml.) in 10 ml. MeOH cooled to -32°, added dropwise to 11 ml. II in 30 ml. MeOH cooled to -32°, the mixt. allowed to rise to 0°, and kept 2 days at 0° gave 2.5 g. IV, identical (m.p., mixed m.p., and infrared absorption spectrum) with IV obtained above. III (1 g.) in 15 ml. AcOH and 5 ml. concd. H2SO4 kept 24 hrs. at 0°, treated with excess solid Na2CO3, and dild. with H2O gave tetra-Me 4H-benzo[a]quinolizine1,2,3,4-tetracarboxylate (V), m. 229-31° (AcOH); this compd. was given a different structure by D. and H. III (0.5 g.) in 5 ml. AcOH contg. 0.5 ml. 60% aq. HClO4 treated with 0.19 g. Br in 1.9 ml. AcOH and kept 16 hrs. gave 1,2,3,4-tetramethoxycarbonylbenzo[a]quinolizium (VI) perchlorate, m. 212° (decompn.) (AcOH). V (0.1 g.) in 5 ml. 1:1 aq.-MeOH treated with 2 g. Br, the mixt. refluxed 5 min., and concd. in vacuo gave VI perbromide, m. 140° (decompn.) (aq. MeOH). III (4 g.) in 30 ml. 1:1 aq.-MeOH treated rapidly with 2 g. Br, refluxed 1 min., and cooled gave 2.2 g. tetra-Me 6,7-dihydro-6-oxo-11bH-

benzo[a]quinolizine-1,2,3,4-tetracarboxylate (VII), m. 207° (MeOH). III (4 g.) in 30 ml. 1:1 aq.-MeOH treated with 6 g. Br, refluxed 1 min., and cooled gave 1.7 g. tetra-Me 6 - (o - methoxycarbonylphenyl)pyridine - 2,3,4,5 - tetracarboxylate (VIII), m. 149-50° (MeOH), λ (MeOH) 2800 A. (ε 5800). VII (0.5 g.) in 10 ml. 1:1 aq. MeOH refluxed with 2 g. Br and evapd. in vacuo gave VIII, m.p. and mixed m.p. 149-50° (MeOH). III (1 g.) in 25 ml. MeOH contg. Raney Ni hydrogenated 14 hrs. at 4 atm., filtered, the filtrate concd. in vacuo, the residue shaken with 20 ml. cold MeOH, and the insol. product crystd. from MeOH gave tetra-Me x,x,6,7-tetrahydro-11 bH-benzo[a]quinolizine-1,2,3,4-tetracarboxylate (IX), m. 217°; evapn. of the MeOH ext. gave an isomeric tetrahydro compd., m. 124-6°. V (0.2 g.) in 25 ml. AcOH contg. PtO2 hydrogenated 14 hrs. at 4 atm. gave IX, m. 217°. Tetra-Me 6,7-dihydro11bH-benzo[a]quinolizine-1,2,3,4-tetracarboxylate (X) (0.2 g.) in 20 ml. MeOH contg. Raney Ni hydrogenated 2 hrs. gave IX, m. 217°. III (0.5 g.) in 25 ml. MeOH contg. 5% Pd-C hydrogenated at 4 atm. gave X, m. 179-80° (MeOH). The ultraviolet and infrared absorption spectra data of the adducts, some derivs., and related compds. were tabulated.

IT **26593-23-7**, 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, tetramethyl ester
(spectrum of)

RN 26593-23-7 HCAPLUS

CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, tetramethyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L4 ANSWER 58 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1961:13423 HCAPLUS
DOCUMENT NUMBER: 55:13423
ORIGINAL REFERENCE NO.: 55:2648g-i,2649a
TITLE: The adducts from quinoline and dimethyl acetylenedicarboxylate
AUTHOR(S): Acheson, R. M.; Earl, N. J.; Higham, P.; Richards, R. E.; Taylor, G. A.; Vernon, J. M.
CORPORATE SOURCE: Univ. Oxford, UK
SOURCE: Proc. Chem. Soc. (1960) 281-2
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

GI For diagram(s), see printed CA Issue.

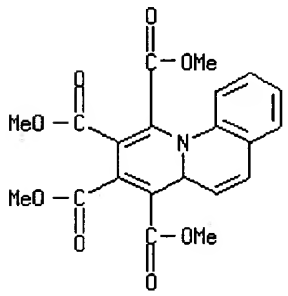
AB Quinoline and (MeO2CC≡)2 through a Diels-Alder reaction gave 2 1:2 adducts. The labile adduct (I) isomerized to the stable adduct (II) on heating or treatment with acids. Structures I and II were assigned to these adducts on the basis of similar compds. obtained in the pyridine series (CA 54, 18521a). I was nonbasic in HClO4-HOAc. Its structure was shown by nuclear magnetic resonance (n.m.r.) studies (Van Tamelen, et al.,

CA 54, 7704b). II did not react with Me2SO4 in MeNO2 at 100° and was monobasic to HClO4 in AcOH. It was a little less basic than tetra-Me 4H-quinolizine-1,2,3,4-tetracarboxylate (the stable pyridine adduct), as approx. 35% HClO4 in MeOH (instead of 8%) was required before the long-wavelength absorption band of the adduct completely disappeared. Diln. with water reversed the change. The hypsochromic shift of the long-wavelength absorption band by approx. 980 A. and other changes in the spectrum observed on acidification were of the magnitude expected for the conversion of the base into the cation.

IT **26593-23-7**, 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, tetramethyl ester
(prepn. of)

RN 26593-23-7 HCAPLUS

CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, tetramethyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



=> **d his**

(FILE 'HOME' ENTERED AT 13:24:15 ON 08 APR 2004)

FILE 'REGISTRY' ENTERED AT 13:24:22 ON 08 APR 2004
L1 STRUCTURE UPLOADED
L2 12 S L1
L3 219 S L1 FULL

FILE 'HCAPLUS' ENTERED AT 13:27:53 ON 08 APR 2004
L4 58 S L3

FILE 'REGISTRY' ENTERED AT 13:28:17 ON 08 APR 2004
L5 STRUCTURE UPLOADED
L6 0 S L5 FULL
L7 0 S L5 FULL
E CANPHANE/CN
E ADAMANTANE/CN
L8 1 S E3
E NORBORNANE/CN
L9 1 S E3
E CAMPHANE/CN
L10 1 S E3
L11 STRUCTURE UPLOADED
L12 0 S L11
L13 0 S L11 FULL
L14 STRUCTURE UPLOADED
L15 0 S L14
L16 0 S L14 FULL

```
     FILE 'BEILSTEIN' ENTERED AT 13:38:46 ON 08 APR 2004
L17            0 S L14

     FILE 'HCAPLUS' ENTERED AT 13:39:04 ON 08 APR 2004

=> s l4 and Guarna, a?/au
           109 GUARNA, A?/AU
L18          8 L4 AND GUARNA, A?/AU

=> d l18, ibib abs fhitstr, 1-8

L18  ANSWER 1 OF 8  HCAPLUS  COPYRIGHT 2004 ACS on STN
```

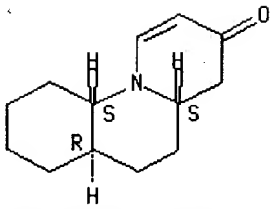
Full Text | Citing References

ACCESSION NUMBER: 2001:426015 HCAPLUS
DOCUMENT NUMBER: 135:282658
TITLE: Effect of C-ring modifications in benzo[c]quinolizin-3-ones, new selective inhibitors of human 5α-reductase 1
AUTHOR(S): **Guarna, A.**; Occhiato, E. G.; Machetti, F.; Trabocchi, A.; Scarpi, D.; Danza, G.; Mancina, R.; Comerci, A.; Serio, M.
CORPORATE SOURCE: Dipartimento di Chimica Organica 'U. Schiff' and Centro di Studio sulla Chimica e la Struttura dei Composti Eterociclici e Loro Applicazioni, C.N.R., Universita di Firenze, Florence, I-50121, Italy
SOURCE: Bioorganic & Medicinal Chemistry (2001), 9(6), 1385-1393
CODEN: BMECEP; ISSN: 0968-0896
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:282658

AB The synthesis and the inhibition potency of octahydro- and decahydrobenzo[c]quinolizin-3-one derivs., as new non-steroidal selective inhibitors of human enzyme 5α-reductase type 1, are reported. These compds. differ from the recently reported benzo[c]quinolizin-3-one inhibitors by the presence of a fully or partially satd. C-ring. Inhibition expts. were carried out on 5αR-1 and 5αR-2 expressed by CHO cells. Structure-activity relationships are discussed. The extended planarity of the most potent benzo[c]quinolizin-3-ones as well as favorable interactions of the C-ring unsatn. with the enzyme active site could account for the inhibition activity of these compds. Non-steroidal octahydro- and decahydrobenzo[c]quinolizin-3-one inhibitors displayed an interesting selectivity toward human enzyme 5α-reductase type 1, the most potent having IC50=58 nM.

IT **365220-41-3P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(benzo[c]quinolizin-3-ones as selective inhibitors of human 5α-reductase 1)
RN 365220-41-3 HCAPLUS
CN 3H-Benzo[c]quinolizin-3-one, 4,4a,5,6,6a,7,8,9,10,10a-decahydro-, (4aR,6aS,10aR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

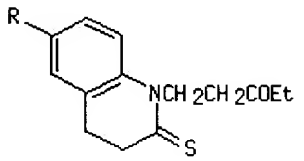


REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

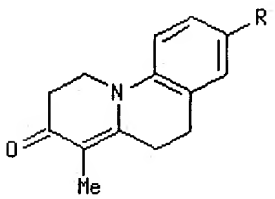
L18 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2000:742534 HCAPLUS
DOCUMENT NUMBER: 134:42052
TITLE: Modification of the Aza-Robinson Annulation for the Synthesis of 4-Methylbenzo[c]quinolizin-3-ones, Potent Inhibitors of Steroid 5α-Reductase 1
AUTHOR(S): **Guarna, Antonio**; Lombardi, Elena; Machetti, Fabrizio; Occhiato, Ernesto G.; Scarpi, Dina
CORPORATE SOURCE: Dipartimento di Chimica Organica U. Schiff and Centro di Studio sulla Chimica e la Struttura dei Composti Eterociclici e loro Applicazioni, C.N.R. Universita di Firenze, Florence, I-50121, Italy
SOURCE: Journal of Organic Chemistry (2000), 65(23), 8093-8095
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:42052
GI



I

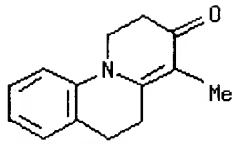


II

AB Modification of aza-Robinson annulation is applicable to the synthesis of N-bridgehead heterocyclic compds. Thus, treating quinolinethiones I (R = H, Me, Cl) with Me2SO4 gave benzo[c]quinolizinones II.

IT **194979-88-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(modification of the aza-Robinson annulation for the synthesis of methylbenzoquinolizinones)

RN 194979-88-9 HCAPLUS
CN 3H-Benzo[c]quinolizin-3-one, 1,2,5,6-tetrahydro-4-methyl- (9CI) (CA INDEX NAME)

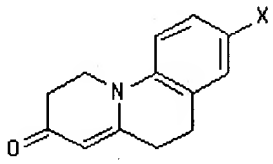


REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2000:632698 HCAPLUS
DOCUMENT NUMBER: 133:362693
TITLE: Benzo[c]quinolizin-3-ones: A Novel Class of Potent and Selective Nonsteroidal Inhibitors of Human Steroid 5α-Reductase 1
AUTHOR(S): **Guarna, Antonio**; Machetti, Fabrizio; Occhiato, Ernesto G.; Scarpi, Dina; Comerci, Alessandra; Danza, Giovanna; Mancina, Rosa; Serio, Mario; Hardy, Kimber
CORPORATE SOURCE: Dipartimento di Chimica Organica U. Schiff and Centro di Studio sulla Chimica e la Struttura dei Composti Eterociclici e loro Applicazioni, Universita di Firenze, Florence, I-50121, Italy
SOURCE: Journal of Medicinal Chemistry (2000), 43(20), 3718-3735
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

AB The synthesis and biol. evaluation of a series of novel, selective inhibitors of isoenzyme 1 of human 5α-reductase (5αR) (EC 1.3.99.5) are reported. The inhibitors are 4aH- or 1H-tetrahydrobenzo[c]quinolizin-3-ones bearing at positions 1, 4, 5, or 6 a Me group and at position 8 a hydrogen, Me group, or chlorine atom. All these compds. were tested toward 5αR-1 and 5αR-2 expressed in CHO cells (CHO 1827 and CHO 1829, resp.) resulting in selective inhibitors of the type 1 isoenzyme, with inhibitory potencies (IC50) ranging from 7.6 to 9100 nM. The inhibitors of the 4aH-series, having a double bond at position 1,2, were generally less active than the corresponding inhibitors of the 1H-series having the double bond at position 4,4a on the A ring. The presence of a Me group at position 4, assocd. with a substituent at position 8, detd. the highest inhibition potency (IC50 from 7.6 to 20 nM). The 1H-benzo[c]quinolizin-3-ones I [X = Me, Cl], having Ki values of 5.8 ± 1.8 and 2.7 ± 0.6 nM, resp., toward 5αR-1 expressed in CHO cells, were also tested toward native 5αR-1 in human scalp and 5αR-2 in human prostate homogenates, in comparison with finasteride and the known 5αR-1-selective inhibitor LY191704, and their mechanism of inhibition was detd. They both inhibited the enzyme through

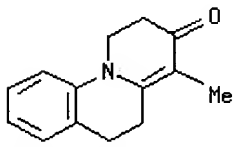
a reversible competitive mechanism and again were selective inhibitors of 5αR-1 with IC50 values of 41 nM. These specific features make these inhibitors suitable candidates for further development as drugs in the treatment of DHT-dependent disorders such as acne and androgenic alopecia in men and hirsutism in women.

IT **194979-88-9P**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of benzo[c]quinolizin-3-ones as potent and selective nonsteroidal inhibitors of human steroid 5α-reductase 1)

RN 194979-88-9 HCAPLUS

CN 3H-Benzo[c]quinolizin-3-one, 1,2,5,6-tetrahydro-4-methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2000:177171 HCAPLUS
DOCUMENT NUMBER: 132:317634
TITLE: Synthesis of 8-chloro-benzo[c]quinolizin-3-ones as potent and selective inhibitors of human steroid 5α-reductase 1
AUTHOR(S): **Guarna, Antonio**; Occhiato, Ernesto G.; Scarpi, Dina; Zorn, Chiara; Danza, Giovanna; Comerci, Alessandra; Mancina, Rosa; Serio, Mario
CORPORATE SOURCE: Dipartimento di Chimica Organica "U. Schiff" and Centro di Studio sulla Chimica e la Struttura dei Composti Eterociclici e loro Applicazioni, CNR, Universita di Firenze, Florence, I-50121, Italy
SOURCE: Bioorganic & Medicinal Chemistry Letters (2000), 10(4), 353-356
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The synthesis of a series of differently substituted 8-chloro-benzo[c]quinolizin-3-ones, as potent and selective human steroid 5α-reductase type 1 inhibitors, has been accomplished by a four-step procedure based on the TiCl4-promoted tandem Mannich-Michael cyclization of 2-silyloxy-1,3-butadienes with N-t-Boc iminium ions from quinolin-2-ones. The presence on the benzo[c]quinolizinone nucleus of a Me group and a double bond at positions 6 and 4-4a, resp., gave rise to one of the most potent non-steroidal steroid 5α-reductase-1 inhibitors reported so far (IC50 = 14 nM).

IT **267226-09-5P**

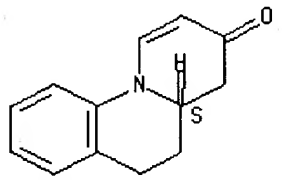
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of chlorobenzoquinolizinones as potent and selective inhibitors of human steroid 5α-reductase 1)

RN 267226-09-5 HCAPLUS

CN 3H-Benzo[c]quinolizin-3-one, 4,4a,5,6-tetrahydro-, (4aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 2000:117047 HCAPLUS

DOCUMENT NUMBER: 132:151692

TITLE: Preparation of (1H)-benzo[c]quinolizin-3-ones for use as 5α-reductase inhibitors

INVENTOR(S): **Guarna, Antonio**; Serio, Mario; Occhiato, Ernesto Giovanni

PATENT ASSIGNEE(S): Applied Research Systems Ars Holding N.V., Neth. Antilles

SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

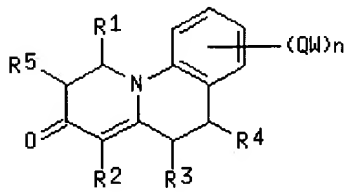
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

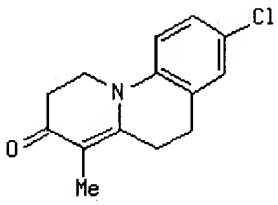
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008019	A1	20000217	WO 1999-EP5277	19990723
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2338498	AA	20000217	CA 1999-2338498	19990723
AU 9963123	A1	20000228	AU 1999-63123	19990723
AU 751873	B2	20020829		
EP 1102765	A1	20010530	EP 1999-941269	19990723
EP 1102765	B1	20030917		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 9912870	A	20011016	BR 1999-12870	19990723
EE 200100060	A	20020617	EE 2001-60	19990723
JP 2002522435	T2	20020723	JP 2000-563652	19990723
NZ 509243	A	20021126	NZ 1999-509243	19990723
CZ 291648	B6	20030416	CZ 2001-434	19990723

AT 250057	E	20031015	AT 1999-941269		19990723
CN 1128148	B	20031119	CN 1999-809204		19990723
PT 1102765	T	20031231	PT 1999-99941269		19990723
ZA 2001000365	A	20010726	ZA 2001-365		20010112
BG 105198	A	20011231	BG 2001-105198		20010130
NO 2001000559	A	20010201	NO 2001-559		20010201
PRIORITY APPLN. INFO.:			EP 1998-114524	A	19980803
			WO 1999-EP5277	W	19990723

OTHER SOURCE(S): MARPAT 132:151692
GI



I

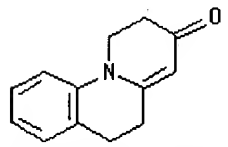


II

AB Benzo[c]quinolizin-3-ones I [R, R1, R2, R3, R4, R5 = H, CN, N3, alkyl alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, halogen, amino, alkyloxy, aryloxy, carboxy, carboxamido; Q = bond, CO, alkyl, alkenyl, alkynyl, cycloalkyl, CONR, NR; W = H, CF3, CN, alkyl alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, halogen, amino, alkyloxy, aryloxy, acyl,carboxy, carboxamido, etc.] were prepd. for use as 5α-reductase inhibitors (no data). Thus, benzo[c]quinolizin-3-one II was prepd. in a two step sequence which comprised N-alkylation of 6-chloro-3,4-dihydro-2(1H)-quinolinethione with Et vinyl ketone using K2CO3 and 18-crown-6 in THF and intramol. cyclocondensation of the resulting N-(3-oxopentyl)quinolinethione using Me2SO4 and DBU in toluene.

IT **194979-85-6P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of benzo[c]quinolizin-3-ones for use as 5α-reductase inhibitors)

RN 194979-85-6 HCAPLUS
CN 3H-Benzo[c]quinolizin-3-one, 1,2,5,6-tetrahydro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

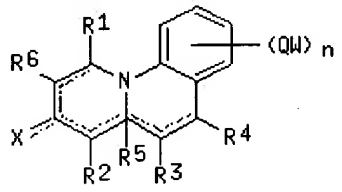
ACCESSION NUMBER: 1999:113517 HCAPLUS
DOCUMENT NUMBER: 130:178758
TITLE: Use of benzo[c]quinolizine derivatives as plant growth regulators
INVENTOR(S): **Guarna, Antonio**; Serio, Mario
PATENT ASSIGNEE(S): Applied Research Systems ARS Holding N.V., Neth.

Antilles
SOURCE: PCT Int. Appl., 14 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9905913	A1	19990211	WO 1998-EP4737	19980729
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9891570	A1	19990222	AU 1998-91570	19980729
AU 750092	B2	20020711		
EP 999747	A1	20000517	EP 1998-943798	19980729
EP 999747	B1	20030423		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001511433	T2	20010814	JP 2000-504746	19980729
AT 237938	E	20030515	AT 1998-943798	19980729
ES 2192332	T3	20031001	ES 1998-943798	19980729
US 6514912	B1	20030204	US 2000-480238	20000110

PRIORITY APPLN. INFO.: IT 1997-FI193 A 19970801
WO 1998-EP4737 W 19980729

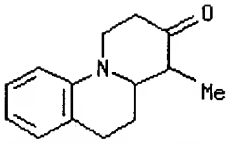
OTHER SOURCE(S): MARPAT 130:178758
GI



I

AB The benzo[c]quinolizine derivs. I (R1-4, R6 = H, alkyl, alkenyl, alkynyl, aryl, heterocyclyl, etc.; R5 = H, alkyl, arylalkyl, CO2H, etc.; Q = bond, alkyl, alkenyl, alkynyl, CO, etc.; W = H, alkyl, alkenyl, aryl, etc.; n = 1-4; a, b, c, d, e, f and g are single or double bonds) are plant growth regulators.

IT **5569-24-4**
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses) (plant growth regulator)
RN 5569-24-4 HCAPLUS
CN 3H-Benzo[c]quinolizin-3-one, 1,2,4,4a,5,6-hexahydro-4-methyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

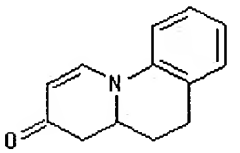


REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

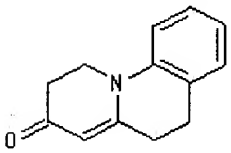
L18 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1998:713257 HCAPLUS
DOCUMENT NUMBER: 130:52313
TITLE: Synthesis of benzo[c]quinolizin-3-ones: selective non-steroidal inhibitors of steroid 5α-reductase 1
AUTHOR(S): **Guarna, Antonio**; Occhiato, Ernesto G.; Scarpi, Dina; Tsai, Ruey; Danza, Giovanna; Comerci, Alessandra; Mancina, Rosa; Serio, Mario
CORPORATE SOURCE: Dipartimento di Chimica Organica "U. Schiff", Centro di Studio sulla Chimica e la Struttura dei Composti Eterociclici e lori Applicazioni, CNR, Univ. di Firenze, Florence, I-50121, Italy
SOURCE: Bioorganic & Medicinal Chemistry Letters (1998), 8(20), 2871-2876
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

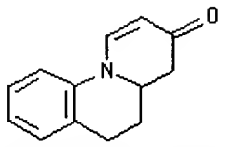


II

AB A short and efficient synthesis of novel benzo[c]quinolizin-3-ones I and II is described. The synthesis is based on the tandem Mannich-Michael cyclization between 2-(silyloxy)-1,3-butadienes and a N-t-Boc iminium ion. I and II are selective inhibitors of human steroid 5α-reductase isoenzyme 1, and thus have potential application as drugs for treatment of male pattern baldness and other DHT-dependent skin disorders.

IT **194979-80-1P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(benzo[c]quinolizin-3-ones as selective inhibitors of steroid 5α-reductase 1)

RN 194979-80-1 HCAPLUS
CN 3H-Benzo[c]quinolizin-3-one, 4,4a,5,6-tetrahydro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1997:542448 HCAPLUS
DOCUMENT NUMBER: 127:220585
TITLE: Benzo[c]quinolizine derivatives, their preparation and use as 5α-reductases inhibitors
INVENTOR(S): **Guarna, Antonio**; Serio, Mario
PATENT ASSIGNEE(S): Applied Research Systems ARS Holding N.V., Neth. Antilles; Guarna, Antonio; Serio, Mario
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9729107	A1	19970814	WO 1997-EP552	19970207
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9717672	A1	19970828	AU 1997-17672	19970207
AU 711886	B2	19991021		
EP 880520	A1	19981202	EP 1997-903230	19970207
EP 880520	B1	20030416		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EE 9800233	A	19981215	EE 1998-233	19970207
EE 4058	B1	20030616		
CN 1210536	A	19990310	CN 1997-192097	19970207
CN 1116296	B	20030730		
JP 2000504680	T2	20000418	JP 1997-528158	19970207
SK 283299	B6	20030502	SK 1998-1044	19970207
AT 237614	E	20030515	AT 1997-903230	19970207
PT 880520	T	20030731	PT 1997-97903230	19970207
ES 2192263	T3	20031001	ES 1997-903230	19970207
EP 926148	A1	19990630	EP 1997-122733	19971223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
NO 9803444	A	19980724	NO 1998-3444	19980724
US 6303622	B1	20011016	US 1998-117583	19980729
CA 2315055	AA	19990708	CA 1998-2315055	19981221
WO 9933828	A1	19990708	WO 1998-EP8582	19981221
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,				

DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

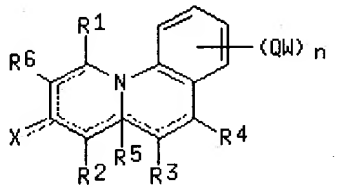
AU 9924194	A1	19990719	AU 1999-24194	19981221
AU 744105	B2	20020214		
BR 9813836	A	20001010	BR 1998-13836	19981221
EP 1066284	A1	20010110	EP 1998-966711	19981221
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EE 200000387	A	20011217	EE 2000-2000038719981221	
JP 2001527074	T2	20011225	JP 2000-526509	19981221
ZA 9811762	A	19990623	ZA 1998-11762	19981222
NO 2000003199	A	20000823	NO 2000-3199	20000620
US 2001044542	A1	20011122	US 2001-888952	20010625
US 6555549	B2	20030429		
US 2001047098	A1	20011129	US 2001-891088	20010625
US 6552034	B2	20030422		

PRIORITY APPLN. INFO.:

IT 1996-FI19	A	19960209
WO 1997-EP552	W	19970207
EP 1997-122733	A	19971223
US 1998-117583	A1	19980729
WO 1998-EP8582	W	19981221

OTHER SOURCE(S): MARPAT 127:220585

GI



I

AB The benzo[c]quinolizine derivs. I (R1-R4, R6 = H, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocycle, halo, amino azide, alkoxycarbonyl, etc.; R5 =H, alkyl, alkoxycarbonyl, cyano, aryl, heterocycle; X = O, acyl, alkoxycarbonyl, NO2, carbamoyl; Q = bond, alkyl, alkenyl, alkynyl, amino, etc., W = H, alkyl, alkenyl, alkynyl, aryl, aryloxy, amino, halo, etc.) were prepd. as 5α-reductases inhibitors (no data). Thus, N-(tert-butoxycarbonyl)-2-ethoxy-1,2,3,4-tetrahydroquinline was cyclized with 2-(trimethylsilyloxy)-1,3-butadiene to give 1,2,4,4a,5,6-hexahydro-(11H)-benzo[c]quinolizin-3-one.

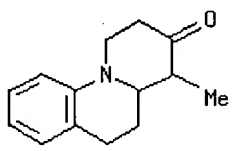
IT **5569-24-4P**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of benzo[c]quinolizine derivs. as 5α-reductases inhibitors)

RN 5569-24-4 HCAPLUS

CN 3H-Benzo[c]quinolizin-3-one, 1,2,4,4a,5,6-hexahydro-4-methyl- (7CI, 8CI, 9CI) (CA INDEX NAME)




```
=> d his

     (FILE 'HOME' ENTERED AT 13:24:15 ON 08 APR 2004)

     FILE 'REGISTRY' ENTERED AT 13:24:22 ON 08 APR 2004
L1                STRUCTURE UPLOADED
L2             12 S L1
L3            219 S L1 FULL

     FILE 'HCAPLUS' ENTERED AT 13:27:53 ON 08 APR 2004
L4             58 S L3

     FILE 'REGISTRY' ENTERED AT 13:28:17 ON 08 APR 2004
L5                STRUCTURE UPLOADED
L6              0 S L5 FULL
L7              0 S L5 FULL
                  E CANPHANE/CN
                  E ADAMANTANE/CN
L8              1 S E3
                  E NORBORNANE/CN
L9              1 S E3
                  E CAMPHANE/CN
L10             1 S E3
L11               STRUCTURE UPLOADED
L12             0 S L11
L13             0 S L11 FULL
L14               STRUCTURE UPLOADED
L15             0 S L14
L16             0 S L14 FULL

     FILE 'BEILSTEIN' ENTERED AT 13:38:46 ON 08 APR 2004
L17             0 S L14

     FILE 'HCAPLUS' ENTERED AT 13:39:04 ON 08 APR 2004
L18             8 S L4 AND GUARNA, A?/AU

=> s l4 and serio, m?/au
            516 SERIO, M?/AU
L19           7 L4 AND SERIO, M?/AU

=> s l19 not l18
L20           0 L19 NOT L18

=> file caold
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                 ENTRY    SESSION
FULL ESTIMATED COST                              346.96    1153.27

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)    SINCE FILE      TOTAL
                                                 ENTRY    SESSION
```

```
CA SUBSCRIBER PRICE                                -45.74      -45.74

FILE 'CAOLD' ENTERED AT 13:47:24 ON 08 APR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1907-1966
FILE LAST UPDATED:  01 May 1997 (19970501/UP)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.  Title keywords, authors, patent
  assignees, and patent information, e.g., patent numbers, are
  now searchable from 1907-1966.  TIFF images of CA abstracts
  printed between 1907-1966 are available in the PAGE
  display formats.

  This file supports REG1stRY for direct browsing and searching of
  all substance data from the REGISTRY file.  Enter HELP FIRST for
  more information.

=> d his

     (FILE 'HOME' ENTERED AT 13:24:15 ON 08 APR 2004)

     FILE 'REGISTRY' ENTERED AT 13:24:22 ON 08 APR 2004
L1              STRUCTURE UPLOADED
L2           12 S L1
L3          219 S L1 FULL

     FILE 'HCAPLUS' ENTERED AT 13:27:53 ON 08 APR 2004
L4           58 S L3

     FILE 'REGISTRY' ENTERED AT 13:28:17 ON 08 APR 2004
L5              STRUCTURE UPLOADED
L6            0 S L5 FULL
L7            0 S L5 FULL
                E CANPHANE/CN
                E ADAMANTANE/CN
L8            1 S E3
                E NORBORNANE/CN
L9            1 S E3
                E CAMPHANE/CN
L10           1 S E3
L11             STRUCTURE UPLOADED
L12           0 S L11
L13           0 S L11 FULL
L14             STRUCTURE UPLOADED
L15           0 S L14
L16           0 S L14 FULL

     FILE 'BEILSTEIN' ENTERED AT 13:38:46 ON 08 APR 2004
L17           0 S L14

     FILE 'HCAPLUS' ENTERED AT 13:39:04 ON 08 APR 2004
L18           8 S L4 AND GUARNA, A?/AU
L19           7 S L4 AND SERIO, M?/AU
L20           0 S L19 NOT L18

     FILE 'CAOLD' ENTERED AT 13:47:24 ON 08 APR 2004
```

```
=> s l3
L21          11 L3

=> d l21, all, 1-11

L21  ANSWER 1 OF 11  CAOLD  COPYRIGHT 2004 ACS on STN
AN   CA65:7140e  CAOLD
TI   benzo[c]quinolizinium salts via intramol. cyclization
AU   Fozard, Alan; Bradsher, C. K.
IT   2739-76-6   2739-92-6   5330-37-0   5350-12-9   6772-68-5   6772-69-6
     6772-70-9   6772-71-0   6772-72-1   6772-73-2   6772-75-4   6772-76-5
     6772-79-8   6772-80-1   6772-81-2   6772-82-3   6772-83-4   6772-84-5
     6772-85-6   6772-87-8   6772-88-9   6772-89-0   6772-90-3   6772-91-4
     6772-92-5   6772-93-6   6772-94-7   6772-95-8   6772-96-9   6772-97-0
     6772-98-1   6773-02-0   6773-05-3   6798-04-5   6798-05-6   6886-46-0
     76293-41-9  92102-81-3  92103-32-7  92290-56-7  92290-57-8  93535-01-4
     94998-27-3  96279-83-3  96279-91-3  96329-85-0  96953-93-4  96984-48-4
     96984-49-5  97027-22-0  97437-83-7  97834-69-0  98655-38-0  100299-73-8
     106480-77-7 106742-14-7 107541-63-9 107543-02-2

L21  ANSWER 2 OF 11  CAOLD  COPYRIGHT 2004 ACS on STN
AN   CA64:15941e  CAOLD
TI   azasteroids - (III) 9-azasteroids
AU   Schleigh, William R.; Popp, F. D.
TI   prepn. and chemistry of 10α-estra-4-en-3-ones
AU   Farkas, Eugene; Owen, J. M.; Debono, M.; Molloy, R. M.; Marsh, M. M.
IT    434-22-0   4491-36-5   4527-66-6   4527-67-7   4620-34-2   4660-20-2
     5233-21-6   5233-22-7   5233-23-8   5233-24-9   5670-42-8   5670-43-9
     5670-44-0   5670-45-1   5670-46-2   5670-47-3   5670-51-9   5670-52-0
     5670-53-1   5670-54-2   5670-55-3   5670-56-4   5670-57-5   5696-23-1
     5696-24-2   6017-86-3

L21  ANSWER 3 OF 11  CAOLD  COPYRIGHT 2004 ACS on STN
AN   CA64:6613c  CAOLD
TI   synthesis of 9-azasteroids - (II) synthesis of β-cyano- and
     β-carbethoxy-3- and 4-oxo-1,2,3,4,5,6-hexahydrobenzo[c]quinolizines
AU   Jones, Gurnos; Wood, J.
IT    539-74-2    592-55-2   1679-47-6   2213-09-4   5100-50-5   5100-51-6
     5100-52-7   5100-53-8   5100-54-9   5100-55-0   5100-56-1
     5100-57-2   5100-58-3   5100-59-4   5100-61-8   5100-62-9   5100-63-0
     5100-64-1   5100-65-2   5100-66-3   5100-67-4   5100-68-5   5100-69-6
     5100-70-9   5100-71-0   5100-72-1   5100-73-2   5100-74-3
     5100-75-4   5100-76-5   5100-77-6   5100-78-7   5161-93-3
     5161-95-5   5161-98-8   5161-99-9   5569-24-4   5688-31-3   6166-32-1
     14283-09-1

L21  ANSWER 4 OF 11  CAOLD  COPYRIGHT 2004 ACS on STN
AN   CA64:6613b  CAOLD
TI   synthesis and reactions of 1-carbamoyl- 1 1-oxoindeno[1,2-c]isoquinoline
AU   Stowell, James K.
IT   5161-91-1   5161-92-2   5580-65-4

L21  ANSWER 5 OF 11  CAOLD  COPYRIGHT 2004 ACS on STN
AN   CA64:2083h  CAOLD
TI   adducts of dimethylketene with C:N-contg. compds.
AU   Martin, James Cuthbert; Hoyle, V. A., Jr.; Brannock, K. C.
IT    598-26-5   4612-76-4   6082-56-0   6082-57-1   6082-58-2   6082-59-3
     6082-60-6   6082-61-7   6082-62-8   6082-64-0
```

L21 ANSWER 6 OF 11 CAOLD COPYRIGHT 2004 ACS on STN
AN CA64:2048c CAOLD
TI synthesis of 9-azasteroids - (I) attempted synthesis of 4-oxobenzo[c]quinolizidines
AU Jones, Gurnos; Wood, J.
IT 2969-81-5 3153-36-4 4491-26-3 4491-27-4 **4491-28-5** **4491-29-6**
4491-30-9 4491-31-0 4491-32-1 4491-33-2 4491-36-5 4491-38-7
4497-60-3 4497-61-4 4497-62-5 4497-63-6 4497-64-7 **4497-65-8**
4497-66-9 4497-67-0 4497-68-1 4518-27-8 4527-66-6 **4527-67-7**
4604-91-5 4607-79-8 **4613-02-9** 4620-32-0 **4620-33-1**
4620-34-2 **4627-23-0** 4660-20-2 **4933-73-7** 4933-74-8 96650-09-8

L21 ANSWER 7 OF 11 CAOLD COPYRIGHT 2004 ACS on STN
AN CA59:6371e CAOLD
TI heterocyclic quinones from 2,3-dichloro-1,4-naphthoquinone
AU Sartori, Mario F.
TI ketene and its derivs. - (III) reaction of diketene with quinoline
AU Kato, Tetsuzo; Kitagawa, T.; Yamamoto, Y.
IT **95516-57-7** **95771-15-6** **98029-81-3**

L21 ANSWER 8 OF 11 CAOLD COPYRIGHT 2004 ACS on STN
Full Text
AN CA59:3899g CAOLD
TI dehydroquinolizinium compds.
PA Wander, Dr. A., A.-G.
DT Patent

PATENT NO.	KIND	DATE
GB 916507		

IT 16171-40-7 31778-07-1 31778-09-3 55814-02-3 67988-76-5 70257-97-5
83260-55-3 92351-48-9 94971-43-4 95047-62-4 95591-43-8 95875-20-0
96078-39-6 96199-58-5 96217-26-4 96433-54-4 96634-21-8 96748-66-2
96748-69-5 96748-70-8 97236-58-3 97441-21-9 97470-02-5 97767-72-1
97770-34-8 97835-66-0 98052-51-8 98074-72-7 98221-62-6 98339-97-0
98339-98-1 98339-99-2 98637-56-0 98691-36-2 **98691-37-3** 98762-31-3
98762-32-4 98764-51-3 98842-51-4 98882-30-5 98882-31-6 99077-67-5
100022-23-9 100027-15-4 100065-27-8 100065-28-9 100266-88-4 100324-25-2
100408-11-5 100732-18-1 100736-28-5 100768-69-2 101404-25-5 101404-26-6
101608-79-1 101797-47-1 104038-45-1 106304-70-5 107118-11-6

L21 ANSWER 9 OF 11 CAOLD COPYRIGHT 2004 ACS on STN
AN CA58:504e CAOLD
TI reaction of dimethyl acetylenedicarboxylate with quinaldine
AU Crabtree, A.; Jackman, L. M.; Johnson, A. W.
IT **17260-83-2** 100266-52-2 101358-50-3 107118-15-0

L21 ANSWER 10 OF 11 CAOLD COPYRIGHT 2004 ACS on STN
AN CA57:779g CAOLD
TI synthesis of 9, 11, 12, 13, 13a, 14-hexahydro-2,3,6-trimethoxydibenzo[f,h]pyrrolo[1,2-b]isoquinoline
AU Govindachari, Tuticorin R.; Ragade, I. S.; Viswanathan, N.
IT 909-41-1 1971-34-2 4176-23-2 4234-95-1 24892-72-6 **26593-23-7**
30963-47-4 **33922-39-3** 59222-31-0 87101-69-7 93431-38-0 93809-59-7
94005-32-0 94165-06-7 97434-62-3 100088-44-6 100233-74-7 100233-81-6
100266-53-3 101984-30-9 105767-03-1 107160-62-3

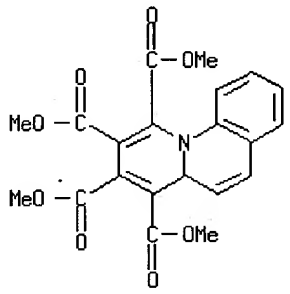
L21 ANSWER 11 OF 11 CAOLD COPYRIGHT 2004 ACS on STN
AN CA55:2648g CAOLD

TI adducts from quinoline and dimethyl acetylenedicarboxylate
AU Acheson, Roy M.; Earl, N. J.; Higham, P.; Richards, R. E.; Taylor, G. A.; Vernon, J. M.
IT 762-42-5 **26593-23-7** **33922-39-3** 132753-02-7

=> **fil reg; d acc 26593-23-7; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:47:46 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 26593-23-7 REGISTRY
CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, tetramethyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C21 H19 N O8
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

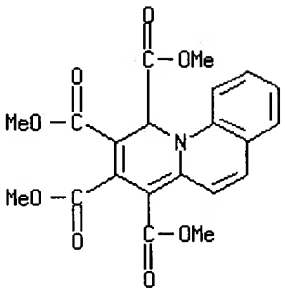
6 REFERENCES IN FILE CA (1907 TO DATE)
6 REFERENCES IN FILE CAPLUS (1907 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:47:47 ON 08 APR 2004

=> **fil reg; d acc 33922-39-3; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:47:53 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 33922-39-3 REGISTRY
CN 1H-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, tetramethyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C21 H19 N O8
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

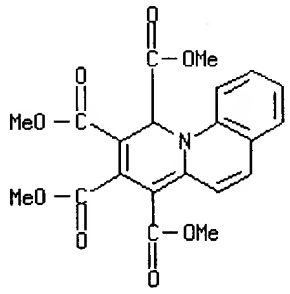
4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:47:53 ON 08 APR 2004

=> **fil reg; d acc 33922-39-3; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:47:59 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 33922-39-3 REGISTRY
CN 1H-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, tetramethyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C21 H19 N O8
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

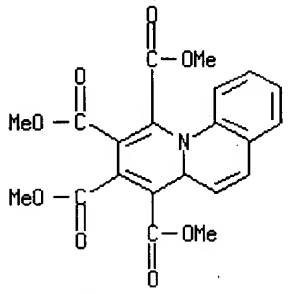
4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:47:59 ON 08 APR 2004

=> fil reg; d acc 26593-23-7; fil CAOLD

FILE 'REGISTRY' ENTERED AT 13:48:06 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 26593-23-7 REGISTRY
CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, tetramethyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C21 H19 N O8
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

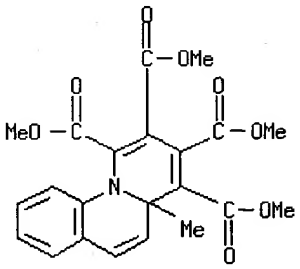
6 REFERENCES IN FILE CA (1907 TO DATE)
6 REFERENCES IN FILE CAPLUS (1907 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:48:06 ON 08 APR 2004

=> fil reg; d acc 17260-83-2; fil CAOLD

FILE 'REGISTRY' ENTERED AT 13:48:18 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 17260-83-2 REGISTRY
CN 4aH-Benzo[c]quinolizine-1,2,3,4-tetracarboxylic acid, 4a-methyl-, tetramethyl ester (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C22 H21 N O8
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

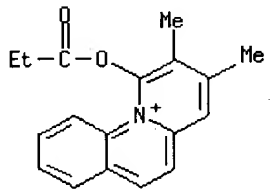
3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:48:19 ON 08 APR 2004

=> **fil reg; d acc 98691-37-3; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:48:34 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 98691-37-3 REGISTRY
CN 1-Hydroxy-2,3-dimethylbenzo[c]quinolizinium bromide, propionate (7CI) (CA INDEX NAME)
MF C18 H18 N O2 . Br
SR CAOLD
LC STN Files: CA, CAOLD, CAPLUS



Br^-

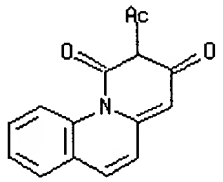
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:48:35 ON 08 APR 2004

=> **fil reg; d acc 95516-57-7; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:49:05 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 95516-57-7 REGISTRY
CN 1H-Benzo[c]quinolizine-1,3(2H)-dione, 2-acetyl- (7CI) (CA INDEX NAME)
FS 3D CONCORD
MF C15 H11 N O3
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

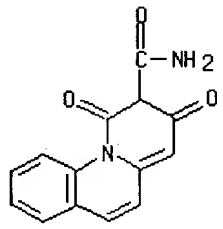
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:49:05 ON 08 APR 2004

=> **fil reg; d acc 95771-15-6; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:49:16 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 95771-15-6 REGISTRY
CN 1H-Benzo[c]quinolizine-2-carboxamide, 2,3-dihydro-1,3-dioxo- (7CI) (CA INDEX NAME)
FS 3D CONCORD
MF C14 H10 N2 O3
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

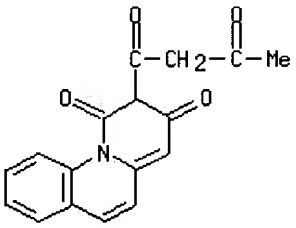
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:49:17 ON 08 APR 2004

=> **fil reg; d acc 98029-81-3; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:49:28 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 98029-81-3 REGISTRY
CN 1H-Benzo[c]quinolizine-1,3(2H)-dione, 2-acetoacetyl- (7CI) (CA INDEX NAME)
FS 3D CONCORD
MF C17 H13 N O4
SR CAOLD
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

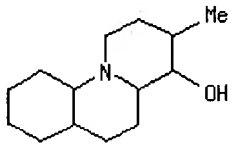
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:49:29 ON 08 APR 2004

=> **fil reg; d acc 4491-30-9; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:49:39 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 4491-30-9 REGISTRY
CN 1H-Benzo[c]quinolizin-4-ol, dodecahydro-3-methyl- (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C14 H25 N O
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

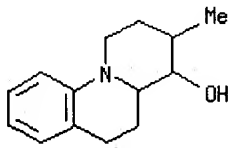
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:49:39 ON 08 APR 2004

=> **fil reg; d acc 4491-28-5; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:49:50 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 4491-28-5 REGISTRY
CN 1H-Benzo[c]quinolizin-4-ol, 2,3,4,4a,5,6-hexahydro-3-methyl- (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C14 H19 N O
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

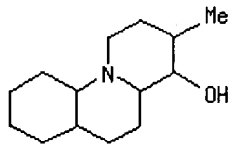
FILE 'CAOLD' ENTERED AT 13:49:50 ON 08 APR 2004

=> **fil reg; d acc 4491-29-6; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:50:00 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 4491-29-6 REGISTRY
CN 1H-Benzo[c]quinolizin-4-ol, dodecahydro-3-methyl-, hydrobromide (7CI, 8CI)

(CA INDEX NAME)
MF C14 H25 N O . Br H
LC STN Files: CAOLD
CRN (4491-30-9)



HBr

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:50:00 ON 08 APR 2004

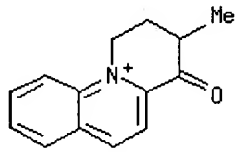
=> **fil reg; d acc 4497-65-8; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:50:10 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 4497-65-8 REGISTRY
CN Benzo[c]quinolizinium, 1,2,3,4-tetrahydro-3-methyl-4-oxo-, picrate (8CI)
(CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1,2,3,4-Tetrahydro-3-methyl-4-oxobenzo[c]quinolizinium picrate (7CI)
MF C14 H14 N O . C6 H2 N3 O7
LC STN Files: CAOLD

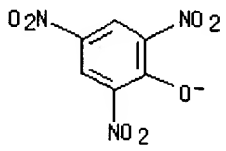
CM 1

CRN 46493-00-9
CMF C14 H14 N O



CM 2

CRN 14798-26-6
CMF C6 H2 N3 O7



1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:50:11 ON 08 APR 2004

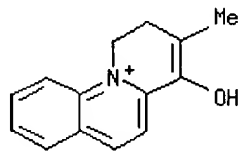
=> fil reg; d acc 4497-66-9; fil CAOLD

FILE 'REGISTRY' ENTERED AT 13:51:19 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 4497-66-9 REGISTRY
CN Benzo[c]quinolizinium, 1,2-dihydro-4-hydroxy-3-methyl-, picrate (8CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1,2-Dihydro-4-hydroxy-3-methylbenzo[c]quinolizinium picrate (7CI)
MF C14 H14 N O . C6 H2 N3 O7
LC STN Files: CAOLD

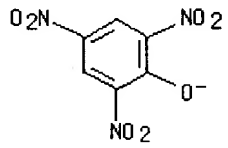
CM 1

CRN 46493-01-0
CMF C14 H14 N O



CM 2

CRN 14798-26-6
CMF C6 H2 N3 O7



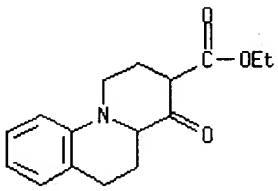
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:51:20 ON 08 APR 2004

=> fil reg; d acc 4613-02-9; fil CAOLD

FILE 'REGISTRY' ENTERED AT 13:51:35 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 4613-02-9 REGISTRY
CN 1H-Benzo[c]quinolizine-3-carboxylic acid, 2,3,4,4a,5,6-hexahydro-4-oxo-, ethyl ester (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C16 H19 N O3
CI COM
LC STN Files: BEILSTEIN*, CAOLD, CASREACT
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

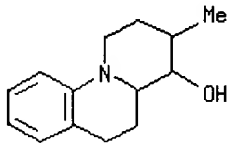
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:51:36 ON 08 APR 2004

=> **fil reg; d acc 4620-33-1; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:51:59 ON 08 APR 2004

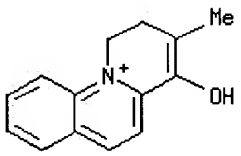
ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 4620-33-1 REGISTRY
CN 1H-Benzo[c]quinolizin-4-ol, 2,3,4,4a,5,6-hexahydro-3-methyl-, hydrobromide (7CI, 8CI) (CA INDEX NAME)
MF C14 H19 N O . Br H
LC STN Files: CA, CAOLD, CAPLUS
CRN (4491-28-5)



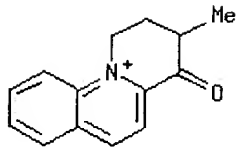
\# HBr

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

```
FILE 'CAOLD' ENTERED AT 13:51:59 ON 08 APR 2004

=> fil reg; d acc 4627-23-0; fil CAOLD

FILE 'REGISTRY' ENTERED AT 13:52:12 ON 08 APR 2004


ANSWER 1  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   4627-23-0  REGISTRY
CN   Benzo[c]quinolizinium, 1,2-dihydro-4-hydroxy-3-methyl-, bromide (8CI)  (CA
     INDEX NAME)
OTHER CA INDEX NAMES:
CN   1,2-Dihydro-4-hydroxy-3-methylbenzo[c]quinolizinium bromide (7CI)
MF   C14 H14 N O . Br
LC   STN Files:   BEILSTEIN*, CAOLD
         (*File contains numerically searchable property data)
CRN  (46493-01-0)
```




```
     # Br-
               1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


FILE 'CAOLD' ENTERED AT 13:52:13 ON 08 APR 2004

=> fil reg; d acc 4933-73-7; fil CAOLD

FILE 'REGISTRY' ENTERED AT 13:52:23 ON 08 APR 2004


ANSWER 1  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   4933-73-7  REGISTRY
CN   Benzo[c]quinolizinium, 1,2,3,4-tetrahydro-3-methyl-4-oxo-, bromide (8CI)
     (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   1,2,3,4-Tetrahydro-3-methyl-4-oxobenzo[c]quinolizinium bromide (7CI)
MF   C14 H14 N O . Br
LC   STN Files:   CAOLD
CRN  (46493-00-9)
```



Br^-

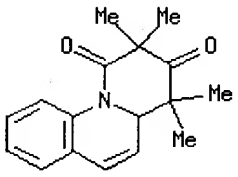
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:52:23 ON 08 APR 2004

=> **fil reg; d acc 6082-64-0; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:53:08 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 6082-64-0 REGISTRY
CN 1H-Benzo[c]quinolizine-1,3(2H)-dione, 4,4a-dihydro-2,2,4,4-tetramethyl-
(7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C17 H19 N O2
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

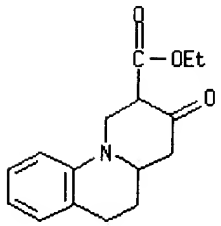
FILE 'CAOLD' ENTERED AT 13:53:08 ON 08 APR 2004

=> **fil reg; d acc 5161-92-2; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:53:18 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5161-92-2 REGISTRY
CN 1H-Benzo[c]quinolizine-2-carboxylic acid, 2,3,4,4a,5,6-hexahydro-3-oxo-,
ethyl ester (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD

MF C16 H19 N O3
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

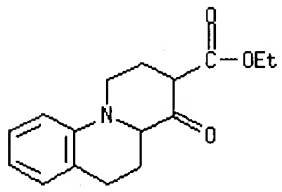
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:53:18 ON 08 APR 2004

=> **fil reg; d acc 4527-67-7; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:53:37 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 4527-67-7 REGISTRY
CN 1H-Benzo[c]quinolizine-3-carboxylic acid, 2,3,4,4a,5,6-hexahydro-4-oxo-, ethyl ester, hydrochloride (7CI, 8CI) (CA INDEX NAME)
MF C16 H19 N O3 . Cl H
LC STN Files: CA, CAOLD, CAPLUS
CRN (4613-02-9)



HCl

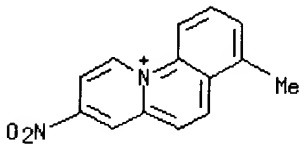
3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:53:38 ON 08 APR 2004

=> fil reg; d acc 96279-91-3; fil CAOLD

FILE 'REGISTRY' ENTERED AT 13:54:24 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 96279-91-3 REGISTRY
CN 7-Methyl-3-nitrobenzo[c]quinolizinium chloride (7CI) (CA INDEX NAME)
MF C14 H11 N2 O2 . Cl
LC STN Files: CAOLD



Cl-

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:54:24 ON 08 APR 2004

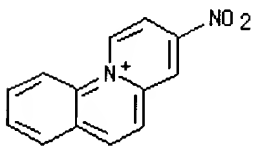
=> fil reg; d acc 106742-14-7; fil CAOLD

FILE 'REGISTRY' ENTERED AT 13:55:57 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 106742-14-7 REGISTRY
CN 3-Nitrobenzo[c]quinolizinium perchlorate (7CI) (CA INDEX NAME)
MF C13 H9 N2 O2 . Cl O4
SR CAOLD
LC STN Files: CAOLD

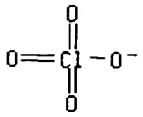
CM 1

CRN 106742-13-6
CMF C13 H9 N2 O2



CM 2

CRN 14797-73-0
CMF Cl O4



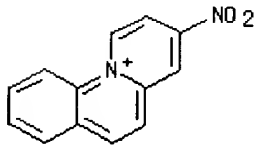
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:55:58 ON 08 APR 2004

=> **fil reg; d acc 107543-02-2; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:56:10 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 107543-02-2 REGISTRY
CN 3-Nitrobenzo[c]quinolizinium chloride (7CI) (CA INDEX NAME)
MF C13 H9 N2 O2 . Cl
SR CAOLD
LC STN Files: CAOLD
CRN (106742-13-6)



Cl-

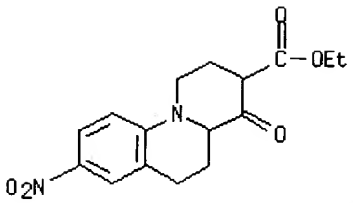
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:56:10 ON 08 APR 2004

=> **fil reg; d acc 5100-53-8; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:56:27 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-53-8 REGISTRY
CN 1H-Benzo[c]quinolizine-3-carboxylic acid, 2,3,4,4a,5,6-hexahydro-8-nitro-4-oxo-, ethyl ester (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C16 H18 N2 O5
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

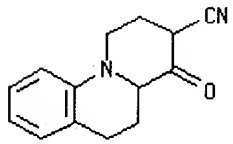
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:56:27 ON 08 APR 2004

=> **fil reg; d acc 5100-55-0; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:56:45 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-55-0 REGISTRY
CN 1H-Benzo[c]quinolizine-3-carbonitrile, 2,3,4,4a,5,6-hexahydro-4-oxo- (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C14 H14 N2 O
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

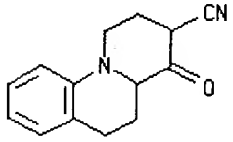
FILE 'CAOLD' ENTERED AT 13:56:45 ON 08 APR 2004

=> **fil reg; d acc 5100-56-1; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:56:57 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-56-1 REGISTRY

CN 1H-Benzo[c]quinolizine-3-carbonitrile, 2,3,4,4a,5,6-hexahydro-4-oxo-, monohydrochloride (8CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Benzo[c]quinolizine-3-carbonitrile, 2,3,4,4a,5,6-hexahydro-4-oxo-, hydrochloride (7CI)
MF C14 H14 N2 O . Cl H
LC STN Files: CA, CAOLD, CAPLUS
CRN (5100-55-0)



HCl

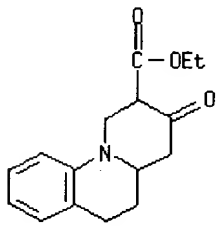
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:56:58 ON 08 APR 2004

=> **fil reg; d acc 5100-62-9; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:57:09 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-62-9 REGISTRY
CN 1H-Benzo[c]quinolizine-2-carboxylic acid, 2,3,4,4a,5,6-hexahydro-3-oxo-, ethyl ester, hydrochloride (7CI, 8CI) (CA INDEX NAME)
MF C16 H19 N O3 . Cl H
LC STN Files: CA, CAOLD, CAPLUS
CRN (5161-92-2)



HCl

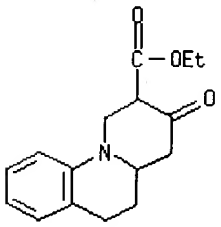
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:57:10 ON 08 APR 2004

=> **fil reg; d acc 5100-62-9; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:57:25 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-62-9 REGISTRY
CN 1H-Benzo[c]quinolizine-2-carboxylic acid, 2,3,4,4a,5,6-hexahydro-3-oxo-, ethyl ester, hydrochloride (7CI, 8CI) (CA INDEX NAME)
MF C16 H19 N O3 . Cl H
LC STN Files: CA, CAOLD, CAPLUS
CRN (5161-92-2)



HCl

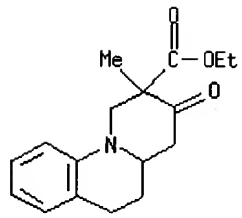
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:57:25 ON 08 APR 2004

=> **fil reg; d acc 5100-63-0; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:57:34 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-63-0 REGISTRY
CN 1H-Benzo[c]quinolizine-2-carboxylic acid, 2,3,4,4a,5,6-hexahydro-2-methyl-3-oxo-, ethyl ester (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C17 H21 N O3
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

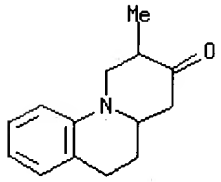
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:57:34 ON 08 APR 2004

=> **fil reg; d acc 5100-64-1; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:57:47 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-64-1 REGISTRY
CN 3H-Benzo[c]quinolizin-3-one, 1,2,4,4a,5,6-hexahydro-2-methyl- (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C14 H17 N O
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

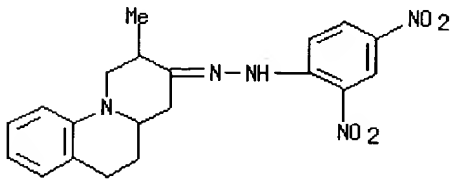
FILE 'CAOLD' ENTERED AT 13:57:47 ON 08 APR 2004

=> **fil reg; d acc 5100-65-2; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:58:38 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN

RN 5100-65-2 REGISTRY
CN 3H-Benzo[c]quinolizin-3-one, 1,2,4,4a,5,6-hexahydro-2-methyl-, (2,4-dinitrophenyl)hydrazone (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C20 H21 N5 O4
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

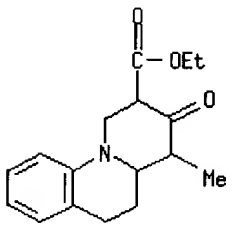
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:58:38 ON 08 APR 2004

=> **fil reg; d acc 5100-70-9; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:59:02 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-70-9 REGISTRY
CN 1H-Benzo[c]quinolizine-2-carboxylic acid, 2,3,4,4a,5,6-hexahydro-4-methyl-3-oxo-, ethyl ester (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C17 H21 N O3
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

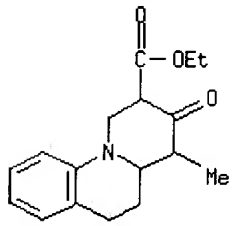
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:59:02 ON 08 APR 2004

=> **fil reg; d acc 5100-71-0; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:59:16 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-71-0 REGISTRY
CN 1H-Benzo[c]quinolizine-2-carboxylic acid, 2,3,4,4a,5,6-hexahydro-4-methyl-3-oxo-, ethyl ester, hydrochloride (7CI, 8CI) (CA INDEX NAME)
MF C17 H21 N O3 . Cl H
LC STN Files: CA, CAOLD, CAPLUS
CRN (5100-70-9)



HCl

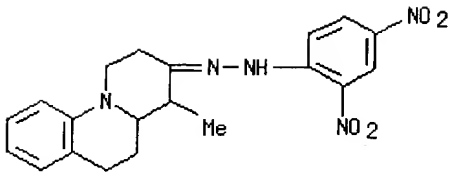
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:59:17 ON 08 APR 2004

=> **fil reg; d acc 5100-72-1; fil CAOLD**

FILE 'REGISTRY' ENTERED AT 13:59:24 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-72-1 REGISTRY
CN 3H-Benzo[c]quinolizin-3-one, 1,2,4,4a,5,6-hexahydro-4-methyl-, (2,4-dinitrophenyl)hydrazone (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C20 H21 N5 O4
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

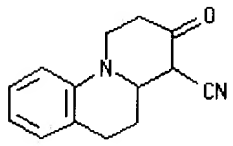
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 13:59:25 ON 08 APR 2004

=> fil reg; d acc 5100-76-5; fil CAOLD

FILE 'REGISTRY' ENTERED AT 13:59:52 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-76-5 REGISTRY
CN 1H-Benzo[c]quinolizine-4-carbonitrile, 2,3,4,4a,5,6-hexahydro-3-oxo-, hydrochloride (7CI, 8CI) (CA INDEX NAME)
MF C14 H14 N2 O . Cl H
LC STN Files: CA, CAOLD, CAPLUS
CRN (5100-77-6)



HCl

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

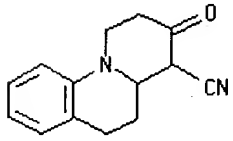
FILE 'CAOLD' ENTERED AT 13:59:53 ON 08 APR 2004

=> fil reg; d acc 5100-77-6; fil CAOLD

FILE 'REGISTRY' ENTERED AT 14:00:03 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-77-6 REGISTRY
CN 1H-Benzo[c]quinolizine-4-carbonitrile, 2,3,4,4a,5,6-hexahydro-3-oxo- (7CI, 9CI) (CA INDEX NAME)

FS 3D CONCORD
MF C14 H14 N2 O
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

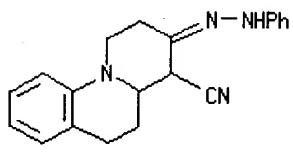
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 14:00:04 ON 08 APR 2004

=> fil reg; d acc 5100-78-7; fil CAOLD

FILE 'REGISTRY' ENTERED AT 14:00:15 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5100-78-7 REGISTRY
CN 1H-Benzo[c]quinolizine-4-carbonitrile, 2,3,4,4a,5,6-hexahydro-3-oxo-, phenylhydrazone (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C20 H20 N4
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

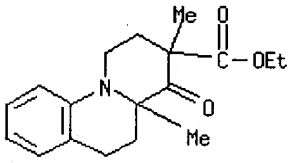
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 14:00:16 ON 08 APR 2004

=> fil reg; d acc 5161-93-3; fil CAOLD

FILE 'REGISTRY' ENTERED AT 14:00:26 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5161-93-3 REGISTRY
CN 1H-Benzo[c]quinolizine-3-carboxylic acid, 2,3,4,4a,5,6-hexahydro-3,4a-dimethyl-4-oxo-, ethyl ester (7CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C18 H23 N O3
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

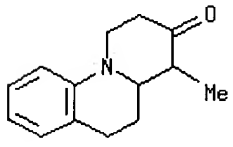
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 14:00:27 ON 08 APR 2004

=> fil reg; d acc 5569-24-4; fil CAOLD

FILE 'REGISTRY' ENTERED AT 14:00:38 ON 08 APR 2004

ANSWER 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 5569-24-4 REGISTRY
CN 3H-Benzo[c]quinolizin-3-one, 1,2,4,4a,5,6-hexahydro-4-methyl- (7CI, 8CI, 9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C14 H17 N O
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, USPAT2, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'CAOLD' ENTERED AT 14:00:38 ON 08 APR 2004

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	1266.17

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-45.74

STN INTERNATIONAL LOGOFF AT 14:00:43 ON 08 APR 2004